35 Cents

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CHICAGO-LOS ANGELES

THE LUMBERMAN

Since 1889

Editorial Index page 2

The Production Journal of the Forest Industries

PLYWOOD VENEER HARDBOARD

ANNUAL REVIEW NUMBER

Highlighting the progress and development of these three growing Industries.

MEETING OF THE MONTH
International Logging Conference—Spokane, Wash., March 24-25-26

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A Miller Freeman Publication

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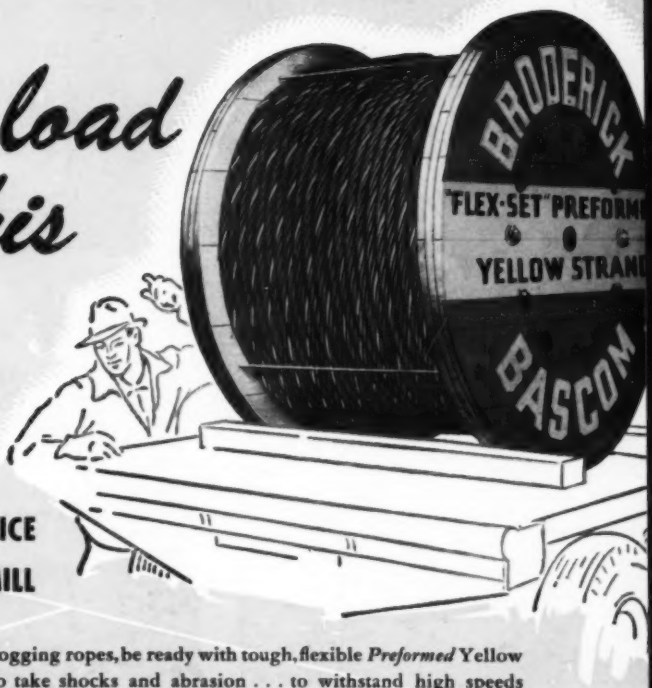

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Yellow Strand
PREFORMED WIRE ROPE

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STEEP country like this is one reason why light-weight McCullochs make records.

Paul Towsley

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UNDERBUCKING a bad lie. This takes skill, but McCulloch light weight really helps.

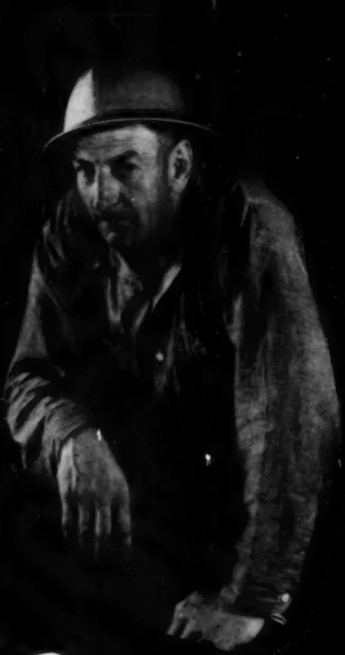
CLOSE-UP of 3-25 notching shows fast, easy cutting in heavy timber.

NOTCHING a medium-size tree—one man with the high-speed 7-55 and 50-inch blade.

FALLING a big 4-footer one man. Design of the 7-55 permits easy 1 or 2-man use.

ONE-MAN falling, Steensen with the 7-55, Towsley with the 3-25.

Peter Steensen



USE McCULLOCHS

Record-holding loggers Peter Steensen and Paul Towsley,

top hands for the C. D. Johnson Lumber Corp., use only McCulloch chain saws.

In 1950, Paul and Peter felled and bucked 18 million feet in 8 months.

McCULLOCH McC MOTORS

McCULLOCH chain saws for record-breaking production

UPSIDE-DOWN full power of McCulloch saw comes in handy in underbucking.

LIMBING goes fast with the maneuverable, 25-pound McCulloch 3-25.

NATIONWIDE SALES AND SERVICE

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World's Largest Builders of Power Chain Saws

McCULLOCH MOTORS CORPORATION, LOS ANGELES 45, CALIF.

THE LUMBERMAN
Since 1889

A Miller Freeman Publication

The Production Journal of the Forest Products Industries Since 1889

ABC

MARCH 1952

Vol. 79 No. 3

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FREE BOOKLET
from Du Pont

shows how to get
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Du Pont "MELSAN" for blue-stain and mold control

"Melsan" Fungicide, a thoroughly tested product of Du Pont research, effectively prevents surface molds *and* blue stain in a single treatment. Specially designed for locations where seasoning conditions are severe.

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PAY-LOAD!

WORLD'S LARGEST PNEUMATIC-TIRED FORK TRUCK . . .

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HANDLES LOADS WEIGHING 24,000 LBS.—72" WIDE!

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HUGE 14.00-20 TIRES, PLENTY OF WEIGHT ON DRIVING WHEELS—MINIMUM YARD SURFACING REQUIRED!

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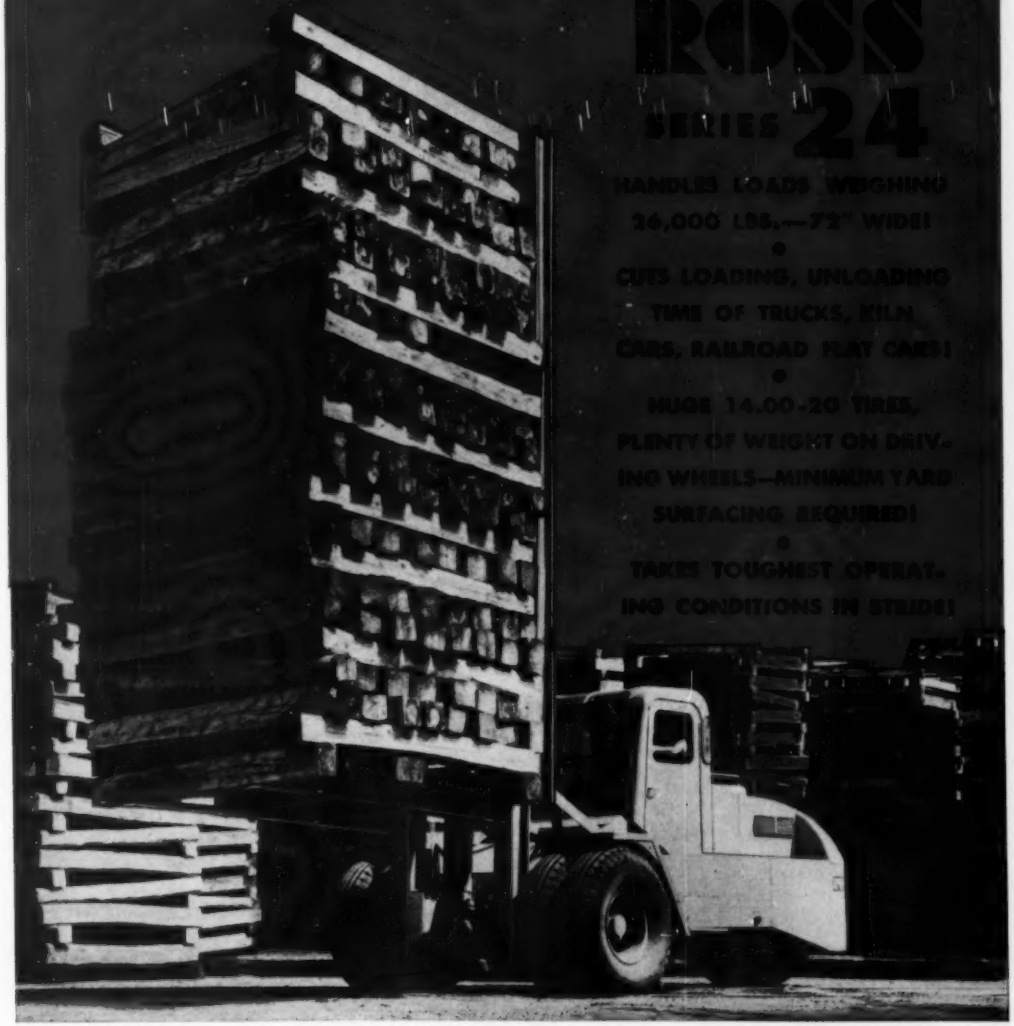
TAKES TOUGHEST OPERATING CONDITIONS IN STRIDE!



It will pay you to get all the details about this giant Ross fork truck—designed expressly to bring you new low lumber handling costs. Write today.

Rely On ROSS

THE ROSS CARRIER COMPANY

Direct Factory Branches and Distributors throughout the world.

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How to keep your lumber bright

PERMATOX 10-S DIPPING VAT

KINGSTREE LBR. & MFG. CO.
Jericho, S. C.

Dips timbers up to 24 in. square, 42 ft. long.
Handles million board feet per week.

Kingstree uses Permatox 10-S to prevent sap stain and mold

■ No matter how large or small your mill may be, you'll find it a paying proposition to dip your lumber in Permatox 10-S. It positively controls stain, mold and decay in lumber during air seasoning. Treatment costs only a few cents per thousand. Dipping equipment is inexpensive and easy to build . . . and very little labor is required in treating. Permatox 10-S is equally effective on softwoods and hardwoods.

Large mills, concentration yards and small mills throughout the United States and Canada have used this effective treatment for years. Users say their bright lumber, treated with Permatox 10-S, brings higher prices . . . eliminates complaints due to stain and mold.

Prevention of insect damage—In addition to preventing sap stain, mold and decay, Permatox 10-S mixed with Chapman Ambrocide protects lumber against the attack of ambrosia beetles and other insects.

Write for literature: Chapman Bulletin 51-S contains many helpful suggestions on how to prevent sap stain, mold and insect attack in lumber and logs. A Spanish edition of this bulletin is also available for the export trade.

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CHAPMAN™ **PERMATOX® 10-S**

Prevents both sap stain and mold, in freshly cut hardwoods and softwoods

ASK THESE 10 QUESTIONS

before you buy a diesel engine!

1 Is it a "true" diesel?

2 Does it have unit fuel injection?

3 Does it have four valves per cylinder?

4 Does it have distortionless pistons?

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6 Does it have an extra heavy crankshaft?

7 Does it have dual overhead camshafts?

8 Are the camshafts driven from the flywheel end?

9 Does it have an integral hydraulic servo-type governor?

10 Is the cylinder block symmetrical?

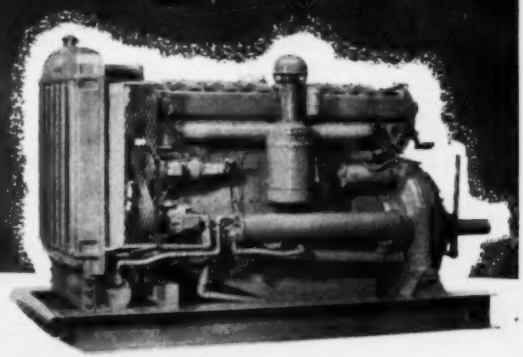
ASK these questions of any diesel engine salesman and you'll find that only the Murphy Diesel Salesman can answer "Yes" to all of them. From an operating standpoint ten "Yeses" mean you'll get more power, greater economy, greater dependability and longer engine life . . . just what you get with Murphy Diesels. Full information is given in the booklet *"10 Questions to Ask a Diesel Engine Salesman."* Ask your Murphy Diesel Dealer for a copy or write direct.

MURPHY DIESEL

Heavy duty power

for the lumber industry

Murphy Diesel Engines and Power Units for the lumber industry are available in sizes from 90 to 226 H.P., 1200 and 1400 rpm, Generator Sets 60 to 140 K.W.



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Turns with Power on

Exclusive International steering system helps "Big-Red"—the TD-24—do more work in less time

What's the pay-off for a crawler tractor? *The most possible work done per day.*

What delivers the pay-off?

Superior speed and power—and fingertip steering to take advantage of that speed and power. Like this:

The operator of your Big Red TD-24 drops one track into low speed, and the huge crawler comes around, moving right along with its load, turning with power on both tracks!

Some tractors can pivot-turn and feather-turn with all power on the outside track. Others can make gradual turns with power on both tracks. Only International's Planet Power Steering gives you all three turns in one tractor—the TD-24.

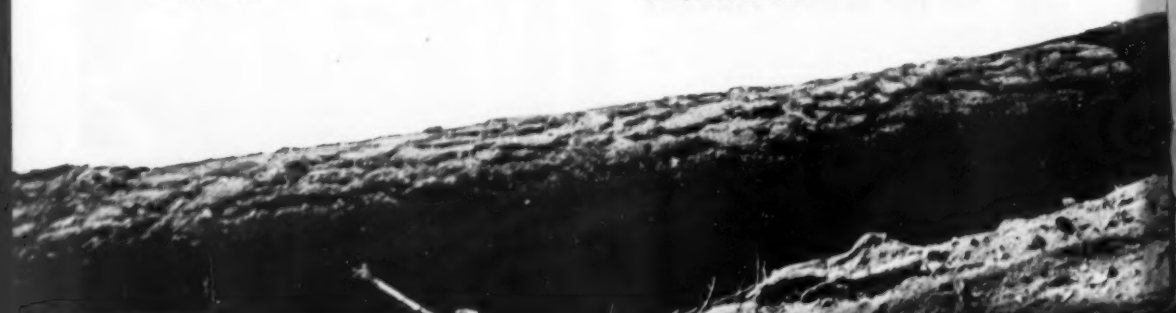
Add this to the TD-24's tremendous power—more drawbar horsepower than any other crawler on the market—and you get what you want: More roadway cleared. More logs skidded to the landing. More work done per day.

Isn't that reason enough to put the TD-24 to work for you? Especially when it's backed by your International Industrial Distributor's complete service facilities. Get the details . . . you'll be a TD-24 man from then on in!

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILLINOIS

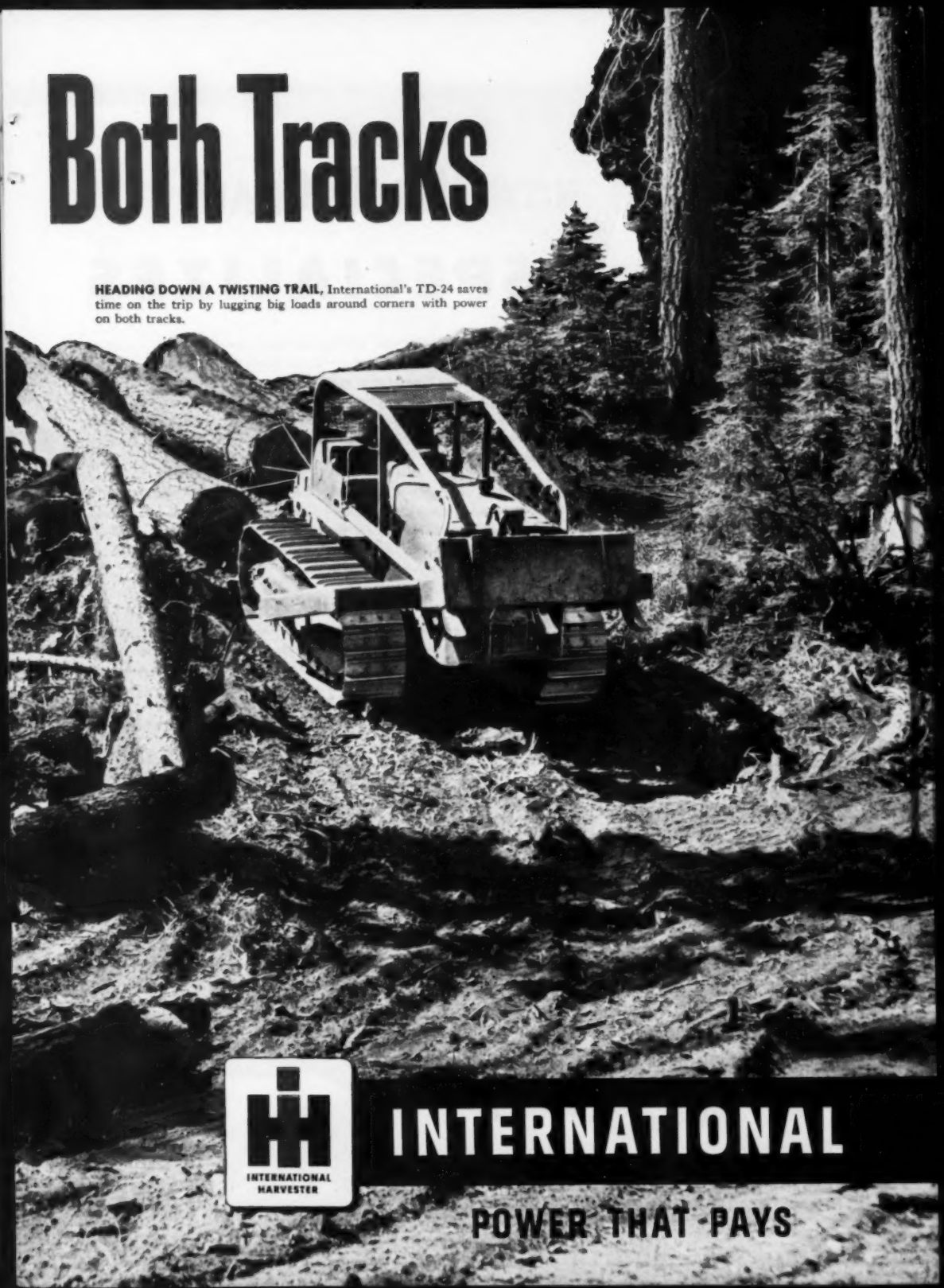
BUNCHING 'EM UP for the Modoc Lumber Co. near Crater Lake, Ore. The TD-24 not only does heavy work faster and easier—its simplified controls make it easier on the operator. See for yourself!

THE CHAMP CLEARS THE WAY! This Big Red TD-24 is on the job in Oregon's Cascade Mountains. The special dozer blade meets Forest Service requirements to protect standing trees just off the trail.



Both Tracks

HEADING DOWN A TWISTING TRAIL, International's TD-24 saves time on the trip by lugging big loads around corners with power on both tracks.



INTERNATIONAL HARVESTER

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POWER THAT PAYS

Union Chain's Performance Story PART • I

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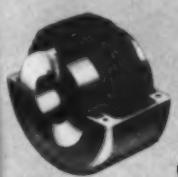
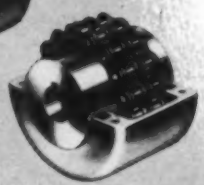
Union Chain manufactures nothing but steel sprocket chains, sprockets and attachments. Not only that—Union Chain is the only manufacturer producing every type of steel sprocket chain *exclusively*. Such specialization is the reason Union Chain consistently produces chains of the finest quality for every possible application—and it also explains why Union Chain is so often called upon to design special chains for unusual requirements.

UNION SILENT CHAIN

UNION HEAVY DUTY CHAIN



UNION SILENT CHAIN FLEXIBLE COUPLING



UNION ROLLER CHAIN FLEXIBLE COUPLING

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With nothing to make but chains—with nothing to be known for but chains—Union Chain insists on meticulous accuracy in the execution of both conventional and *extra exclusively Union* manufacturing operations, thus insuring superiority of performance.

Part III - How UNION CHAIN *Recommends*

There is no need for Union Chain to recommend any chain but the right one — since Union Chain makes every type. Moreover, wide experience with every type of chain makes a recommendation from Union Chain's engineering staff a valuable one.

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Direct Factory Representatives are located in most industrial cities to provide a two-way communication service between customer and factory. See list at right—as well as list of Stock Carrying Distributors.*

*At the present time there is a heavy demand for many types of chain. Consequently, our distributors are not always in a position to fill all orders from stock.

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2614 Sylvan Ave.
Dallas, Texas

Beacon Supply Co., Inc.
1825 Washington Ave.
Houston 10, Texas

Bearing Specialists Co.
2902 Texas
Lubbock, Texas

El Paso Machine Works, Inc.
1602 E. 4th St.
El Paso, Texas

Great Western Supply Co.
14th & Throckmorton
Fort Worth, Texas

E. B. Hayes Machinery Co.
Marshall, Texas

Lloyd Electric Co.
211 El Paso St.
San Antonio, Texas

Overton & Mims, Inc.
1307 Main
Wichita Falls, Texas

VIRGINIA
Blue Ridge Hardware & Supply Co.
Bassett, Virginia

Mill Supplies Corp.
South Norfolk, Virginia

WASHINGTON
Electric Steel Foundry
1327 Westlake Ave. N.
Spokane, Washington

WEST VIRGINIA
Park Bearing Sales Co.
2291 Dudley St.
Parkersburg, W. Virginia

Staufield Hardware Co.
Staufield, W. Virginia

Smith Steel Supply Co.
136 Peninsula St.
Wheeling, W. Virginia

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Dahl Industrial Supply Co.
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ATTACHMENTS • SPROCKETS • FLEXIBLE COUPLINGS • FOR ALL INDUSTRIES

Larsen Logging Says "G.P. Service Best Ever"

Svend Larsen, president of the Larsen Logging Co. of Bellingham, Washington, whose equipment annually fells and removes 25 million board feet of timber, says he has received "the best service ever" from the General Petroleum Lubrication Engineers who've worked with him during the past five years.

One example of how this service has paid off occurred when a G. P. representative was called in to correct a mechanical failure in the costly Larsen light plant which caused it to break down periodically. His proper diagnosis has helped keep the plant running smoothly ever since.

There's a General Petroleum representative in your area, too, who can provide you with modern lubrication methods designed to make your equipment run better longer. He'll help you reduce inventory requirements, too, so call him in today!

Skidder operates in muddy terrain

Loader piles logs onto truck for transport

Caterpillar D-8 in roadbuilding role

SOCONY-VACUUM

General Petroleum Corporation

Converting nature's gift to better living

Longer wear-life is another *extra* designed into every Fuller Heavy-Duty Transmission.

These gears pictured here, for example, were taken from a Fuller 5-A-920 which logged 750,000 miles . . . 30 times around the world . . . WITHOUT OVERHAUL.

That's why owner Stan Iskra, of Bellevue, Ohio, says:

"After seeing all of the mileage which I have gotten out of this transmission, I wouldn't think of buying another truck that did not have a Fuller Transmission."

This particular tractor was in service hauling steel from Pittsburgh to Detroit and nearby points, part of the time pulling a double-dolly train. But its *longer* wear-life record could have been posted in any kind of heavy-duty hauling—off-highway or on—because there is a Fuller Transmission to match every "road and load condition." More than 101 models, in fact.

Choose a Fuller Transmission or Auxiliary for your rig. You'll find, like Stan Iskra, that it pays in more tonnage hauled at the end of the year for far less, particularly in maintenance.

Unretouched photographs above show the original gears, just as they came out of Stan Iskra's 5-A-920 Fuller Transmission, after millions upon millions of punishing contacts.

Fuller TRANSMISSIONS ®

FULLER MANUFACTURING COMPANY (Transmission Division), KALAMAZOO 13F, MICHIGAN

Unit Drop Forge Division, Milwaukee 1, Wis. • WESTERN DISTRICT OFFICE (SALES & SERVICE—BOTH DIVISIONS), 1060 E. 11th Street, Oakland 6, Calif.

The plain hard facts prove you save with

CHEVROLET Advance-Design TRUCKS

FACT No. 1

MORE TRUCK FOR LESS MONEY

Compare the list price of a Chevrolet truck with that of any other truck built to handle the same payloads. You'll find the Chevrolet truck lists for less, yet brings you ruggedness, stamina and great truck features you won't find in many trucks costing much more.

FACT No. 2

ROCK-BOTTOM OPERATING COSTS

Dollar-for-dollar comparisons prove that Chevrolet trucks cost least to own and maintain. Valve-in-Head economy saves on gas, in the 105-h.p. Loadmaster or 92-h.p. Thriftmaster engines. Four-way engine lubrication reduces wear and oil costs. Rugged construction means long life.

FACT No. 3

ENGINEERED FOR YOUR LOADS

Every Chevrolet truck is *factory-matched* to payload and service requirements. You don't have to buy more truck—or settle for less truck—than you need for your loads. Frame, axles, springs, body, brakes and power are balanced for the job.

FACT No. 4

LOWER, SLOWER DEPRECIATION

Records show that Chevrolet trucks traditionally bring more money at resale or trade-in than many other makes. Chevrolet's market value stays up because the value stays *in!* Here is important and convincing proof that Chevrolet is the best truck buy!

CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

TWO GREAT VALVE-IN-HEAD ENGINES—the 105-h.p. Loadmaster or the 92-h.p. Thriftmaster—to give you greater power per gallon, lower cost per load • POWER-JET CARBURETOR—for smooth, quick acceleration response • DIAPHRAGM SPRING CLUTCH—for easy-action engagement • SYNCHRO-MESH TRANSMISSION—for fast, smooth shifting • HYPOID REAR AXLE—for dependability and long life • TORQUE-ACTION BRAKES—on light-duty models • PROVED DEPENDABLE DOUBLE-ARTICULATED BRAKES—on medium-duty models • TWIN-ACTION REAR BRAKES—on heavy-duty models • DUAL-SHOE PARKING BRAKE—for greater holding ability on heavy-duty models • CAB SEAT—with double-deck springs for complete riding comfort • VENTI-PANES—for improved cab ventilation • WIDE-BASE WHEELS—for increased tire mileage • BALL-TYPE STEERING—for easier handling • UNIT-DESIGNED BODIES—for greater load protection • ADVANCE-DESIGN STYLING—for increased comfort and modern appearance.

CHEVROLET DIVISION OF GENERAL MOTORS, DETROIT 2, MICHIGAN

"They always stay true-to-pattern, too!"

Talk to any user of Jones & Orth Cutter Heads and you'll hear *plenty* of good reasons why they're enthusiastic about them.

Those who keep the closest check on *both* quality and costs are always our strongest boosters. And—the tougher the job to do, the more likely it is that you'll find Jones & Orth Heads being used!

If YOU want cutter heads that will do a consistently better job—turn out higher quality work, at LOWER net cost—your best bet is unquestionably Jones & Orth.

The way to prove this to your own satisfaction is to install a set of our cutter heads on your hardest working unit, then compare output—and costs!

Write today for new catalog, and name of our dealer nearest you. Address either our Seattle or Memphis branch.

Need specially designed cutter heads? Let our engineers help! Write us in detail. Prompt service!

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CUTTER HEAD COMPANY

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MEMPHIS 3, TENN.

BOX 3064
SEATTLE 14, WASH.

Get Every Job Done

FASTER! EASIER! AT LOWER COST!

on GENERALS!

✔Job calls for most work off the road-some work on-use GENERAL L.C.M.

MORE TRACTION-MORE SPEED.

TOUGH TREAD-LASTS LONGER.

MORE PROFIT ON L.C.M.

✔When job calls for most work on the road-some work off-use GENERAL H.C.T.

saw-tooth tread ribs-

STOP FASTER-STEER EASIER

GIVE MORE, SAFE MILEAGE

MORE PROFIT on H.C.T.

GENERAL L. C. M. Broad, deep tread and shoulder cleats develop extra traction forward or backward. More cords for greater carcass strength. Moves more, heavy loads easier, faster, at lower cost.

GENERAL H. C. T. More rubber, more cords in this heavy duty truck tire with a special shock-absorber design. More traction off-the-road, more safety on-the-road. More original and more recap miles.

SPECIFY GENERAL TIRES ON YOUR NEW EQUIPMENT

Peterbilts

"Perfectly Satisfactory in Every Respect"

THAT'S just about the best reason there is for buying a truck. George Butler of Butler Freight Service, Eureka, California holds this opinion about his 13 PETERBILTS, and it naturally follows that needing another truck for his expanding operation, he has another PETERBILT on order.

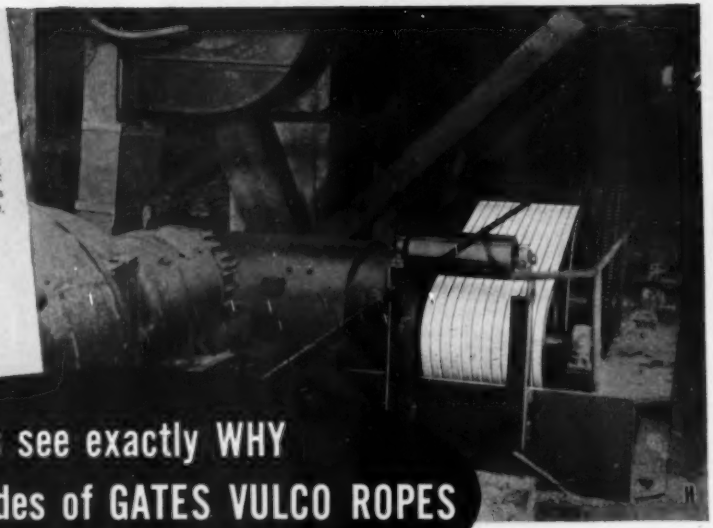
Hauling general commodities North out of Eureka to Crescent City and Smith River, Butler's PETERBILTS average over 7500 miles per month, carrying average net payloads of 46,000 pounds. On return trips from Smith River, these PETERBILTS haul lumber from Diebold Mills, Inc. to Arcata, where the loads are transferred to railroad flat cars.

Commenting on the maintenance of his PETERBILTS, Mr. Butler says: "Every time I look in the repair shop it looks like an empty ballroom." Here is further evidence of PETERBILT'S fame as the truck of dependable transportation.

Peterbilt MOTORS COMPANY

10700 MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

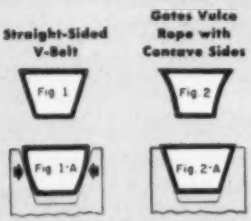
HEAVY DUTY TRUCKS—MACDONALD LOW BODY & LIFT TRUCKS



In the Batterton, Oregon, mill of the Buffelen Lumber Co., this cable operated carriage feed is driven by Gates Vulco Ropes — replacing a hydraulic feed which had long, slender hydraulic cylinders with the attendant problems of maintenance, leakage and alignment.

Let's see exactly WHY the Concave Sides of GATES VULCO ROPES mean lower V-Belt Costs!

What Happens When a V-Belt Bends



How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

The Concave Sides Fill out to a Precise Fit in the Sheave Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley — Uniform Wear — Longer Life!

Every engineer knows how a V-belt *changes shape* when it bends around a pulley.

The top of the belt is under tension—making it grow *narrower.*

The body is under *compression,* causing the sides to bulge out!

Look at figure 1-A in the diagrams, herewith. There you see how a *straight sided* V-belt is forced to bulge in its sheave-groove —and this bulging naturally causes extra wear along the middle of the sides as indicated by the arrows.

Now look at the figure 2-A. There you see how the precisely engineered Concave Sides fill out to an exact fit in the sheave groove.

Clearly, the Concave Sides press *evenly* against the V-pulley. This means uniform wear; longer life! The Concave Sides have *full traction;* wear longer because of *full contact!*

To sum up: The Concave Sides of Gates Vulco Ropes (U.S. Patent No. 1813698) give you (1) Less wear, (2) More pulley contact, (3) More sure power transmitted when needed!

Only V-belts made by Gates are built with concave sides. Whenever you buy V-Belts, be sure you get the V-Belt with the Concave Sides—The Gates Vulco Rope!

CS 521

World's Largest Maker of V-Belts

Gates

Hose V-Belts Molded Rubber Goods for Industry

VULCO ROPE DRIVES

ENGINEERING OFFICES AND JOBBER STOCKS IN ALL INDUSTRIAL CENTERS

THE GATES RUBBER COMPANY • DENVER • U•S•A

EARNINGS are what count! That's what you buy a Log Loader for—to make money. If it won't swing logs, it *it's* in trouble all the time, if operating costs are high, it means red ink—and then *you're* in trouble.

Your Northwest Log Loader has behind it all the thinking that will make a profit for you. Only profitable operations in the hands of Northwest Customers will produce repeat orders. Northwest simplicity of design, the "Feather-Touch" Clutch Control, Uniform Pressure Swing Clutches, Northwest Machinery mounting, the Northwest Cushion Clutch and the Northwest steering and crawler action that makes the Northwest an *all-weather* Log Loader, combine for smoothness, easy operation and output that do their part in making your show profitable. That is why one out of every three Northwests is a repeat order. Why not learn about them now? You can plan and talk it over with a Northwest Man.

NORTHWEST ENGINEERING COMPANY
1510 Field Building, 135 South LaSalle St., Chicago 3, Illinois

LOG LOADERS
SHOVELS
CRANES
DRAGLINES
PULLSHOVELS

NORTHWEST

NORTHWEST SALES OFFICES:
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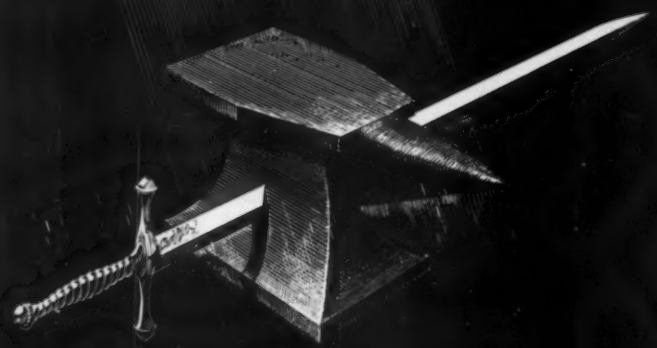
LOS ANGELES, CALIF., 3707 SANTA FE AVENUE



Famous Blades

Excalibur...

Blade of King Arthur... symbol of leadership

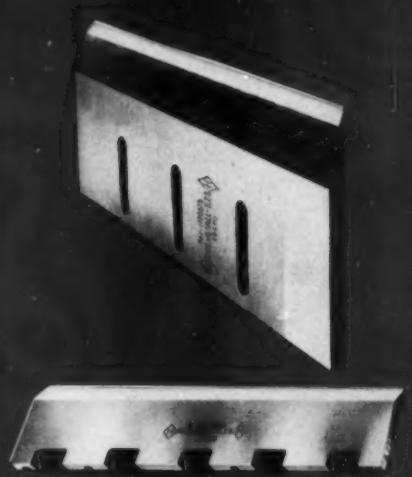
Created by the magician Merlin, Excalibur, the sword of King Arthur possessed great powers. Above all, it symbolized the authority and leadership of the King. Only Arthur, the true leader, had the power to remove Excalibur from the anvil in which it was embedded and wear it as ruler of all England.

Heppenstall CHIPPER KNIVES ... symbols of leadership in outstanding service to industry

Records of performance taken from plants where these knives are in constant use show such advantages as:

- ★ MORE HOURS BETWEEN GRINDS
- ★ LESS SAWDUST WASTE
- ★ LESS OVERSIZE CHIPS
- ★ LOWER OVERALL BLADE COST

These famous Chipper Knives can give *you* these advantages. Make them your standard—today.



Heppenstall

PITTSBURGH 1, PENNSYLVANIA

they're
custom-built
to fit the job!

Work boats, pleasure craft

Drilling rigs, centrifugal pumps, generator sets

Earthmovers, logging yarders and loaders

Buses and highway trucks

Off-highway trucks, crawler tractors

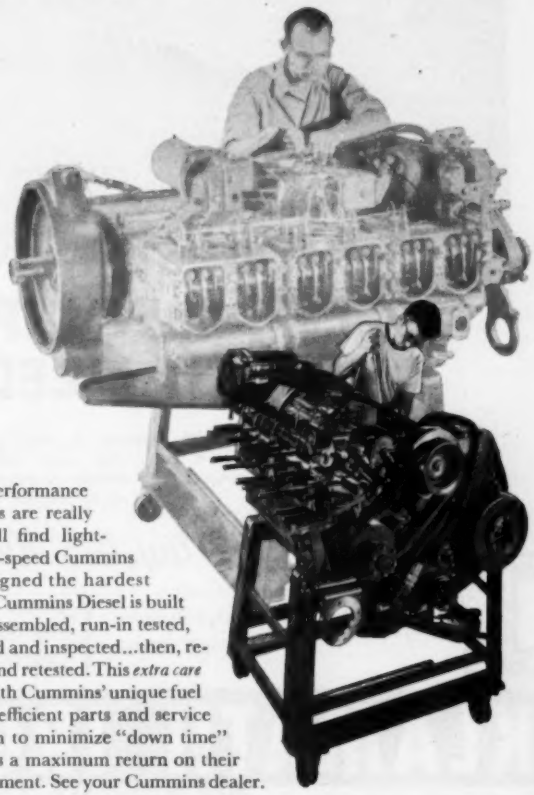
Shovels, cranes, industrial locomotives and switchers

Lightweight, high-speed Diesels (50-550 hp) for these and many other uses

Cummins® Diesels do so many jobs so much better

they're

BUILT NOT ONCE BUT TWICE



Wherever performance requirements are really rough, you'll find lightweight, high-speed Cummins Diesels assigned the hardest jobs. Every Cummins Diesel is built *TWICE*—assembled, run-in tested, disassembled and inspected...then, reassembled and retested. This *extra care* combines with Cummins' unique fuel system and efficient parts and service organization to minimize "down time" ...give users a maximum return on their diesel investment. See your Cummins dealer.

CUMMINS Diesel

TRADEMARK REG. U.S. PAT. OFF.

Diesel power by CUMMINS

CUMMINS ENGINE COMPANY, INC., COLUMBUS, INDIANA

Export: Cummins Diesel Export Corporation • Columbus, Indiana, U.S.A. • Cable: Cumdiex

SPECIAL EQUIPMENT FOR SPECIALIZED WORK

The Twin Bandmills with provision for moving the saws to the desired position along with the Fabricated steel Roll case and Transfers are examples of modern manufacturing practices applied to modern problems

May We Help You

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original designers and builders

Sawmill and Box Factory Machinery
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Complete Portable and Semi-portable Band Sawmills

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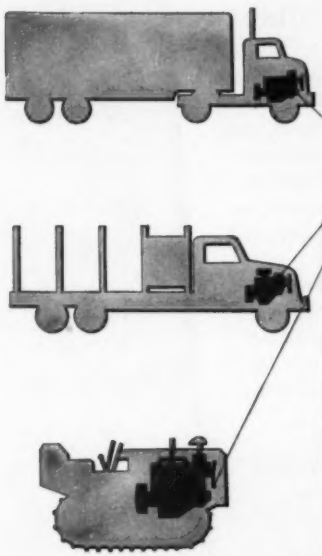
ELECTRIC POWER EQUIPMENT LTD., N. VANCOUVER, B. C.

TO CUT YOUR MAINTENANCE COSTS

ON HEAVY DUTY ENGINES

Use Shell Rotella Oil



Extra Heavy Duty for DIESEL and GASOLINE engines

What this oil does

Shell Rotella Oil is now recognized as an *extra* heavy duty oil. That's because it so greatly exceeds all the accepted performance requirements. It excels particularly in two: keeping critical engine parts *clean;* protecting against *wear.*

What this means to you in $ and ¢

Cleaner engines, reduced rates of wear—those mean a tremendous increase in engine *life.* And a drastic cut in maintenance costs. Yes, there's a real dollars-and-cents saving in Shell Rotella Oil. Get the full story from your Shell representative.

SHELL

Remember, only Shell offers you
SHELL ROTELLA OIL
the extra heavy duty oil that cuts engine maintenance costs

SIMPLIFY YOUR POWER MOTION PROBLEMS...WITH

Hanna

HYDRAULIC AND PNEUMATIC

Cylinders and Valves

SMOOTH ECONOMICAL POWER FOR PUSHING, PULLING, LIFTING, PRESSING, CLAMPING OR CONTROLLING

FOOT OPERATED VALVE

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¼" UNITITE Jr. VALVE

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Hanna Engineering Works

1761 HUBTON AVE., CHICAGO 22, ILL.

HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES . . . RIVETERS

There are standard model Hanna Hydraulic and Pneumatic Cylinders . . . for air, oil or water operation . . . for high and low pressure . . . to suit nearly every mounting requirement. Hanna Valves are available in a broad line of standard designs and sizes, both hand and foot operated, for effortless hydraulic and pneumatic control.

Hanna Cylinders and Valves are supplying dependable low cost power throughout the world in all types of industry—metal-working, machine tool, woodworking, plastics, construction, agriculture, mining, shipbuilding, railroads—wherever power motion is needed. They increase production and lower costs by replacing manual effort and simplifying the actuation and control of all types of machines and equipment.

Send for HANNA Catalogs

You'll want these very informative catalogs for full information and complete specifications.

HYDRAULIC CYLINDERS
Catalog 233-A

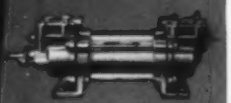
PNEUMATIC CYLINDERS
Catalog 236

VALVES
Catalog 254

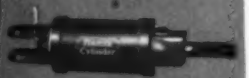
Model 18-M PNEUMATIC CYLINDER

Model 14-M PNEUMATIC CYLINDER

Model 10-M PNEUMATIC CYLINDER


Model 4-SB PNEUMATIC CYLINDER

Model HP-4 HYDRAULIC CYLINDER


Model HP-14 HYDRAULIC CYLINDER

Model HP-25 HYDRAULIC CYLINDER

Model HP-17 HYDRAULIC CYLINDER

For 50 Years . . .
Hanna Has Designed, Engineered and Built The Finest Quality Products

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Add that PUNCH

The fight is won by the man with the power in his punch. When you, as a truck operator, are fighting the battle of close delivery schedules, rising operating costs, terrain and weather conditions—then's when the extra punch of Kenworth trucks makes the difference between profit and loss. Kenworth pays for itself—in long, continuous, low-cost operation—on schedule. This emphasis on the quality of Kenworth's engineering and production points up that oft-repeated punch line—

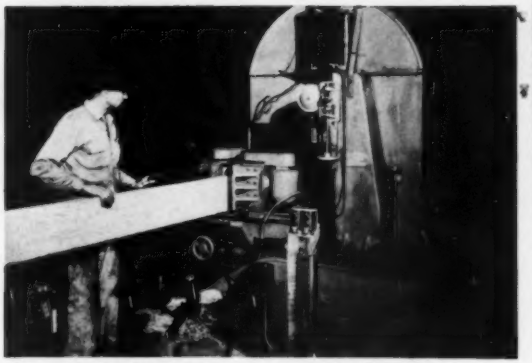
there's more WORTH in KENWORTH.

KENWORTH

TRUCKS OF PUSSES

FACTORY AND HOME OFFICE: SEATTLE, U. S. A. DISTRIBUTORS IN THE UNITED STATES AND MOST FOREIGN COUNTRIES

How 6 Lumber Mills Modernized Electrically

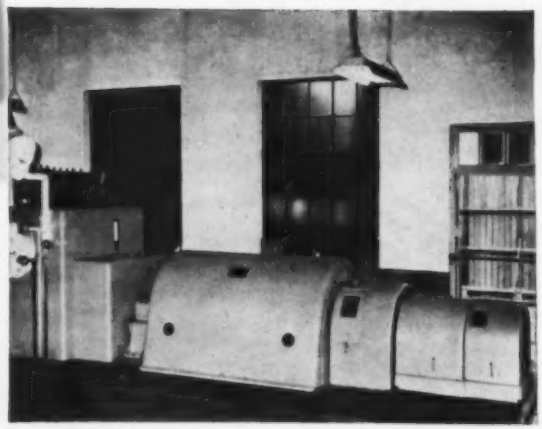


At Lumber Manufacturing Co., San Francisco, California, two Thy-mo-trol® drives replaced a bulky mechanical drive on this Turner vertical band resaw. The operator can vary the speed of wood being sawed from 8 feet per minute to 350 feet per minute. Installation of this drive resulted in more efficient machine operation and greater output. Write for Bulletin GEA-5334, "G-E Adjustable Speed Drives."

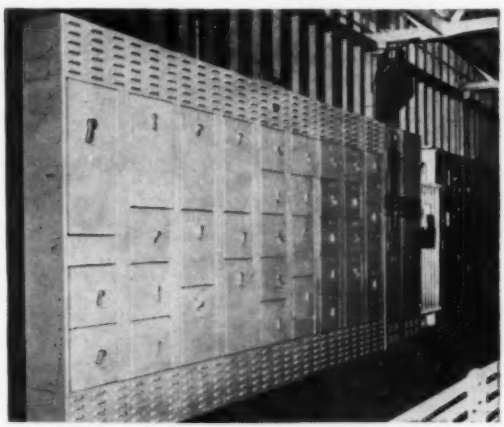
EFFICIENT G-E POWER SYSTEMS AND CO-ORDINATED DRIVES INCREASE MILL OUTPUT

What's *your* particular electrical need? Generating equipment that provides more power per fuel dollar? New distribution facilities that offer greater protection to your machines and personnel? Want to boost production and lower costs with modern electric drives?

Whatever it is in electric equipment, General Electric can furnish it in just the type and size to meet your needs—whether it's only a small motor or control, or all the major electric equipment for your lumber mill.

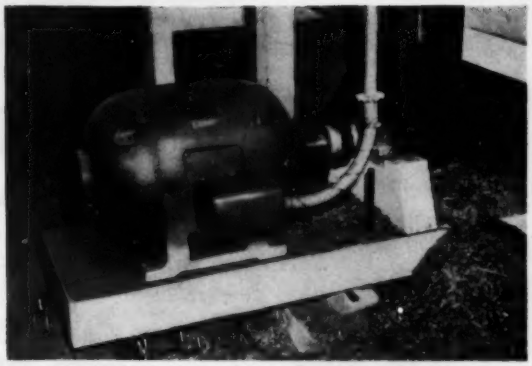


At Medford Corp., Medford, Oregon, this General Electric 2500-kw generator is driven by a G-E topping turbine exhausting to operate two 1000-kw generators, a battery of 18 dry kilns, steam equipment in the saw mill and machine shop, and for heating purposes throughout the plant. When the economics of your operation justify the production of power as a by-product of your process steam, G-E turbine-generators are the answer for continuous, low-cost operation. Write for Bulletin GEA-3277, "Turbine Generators."



At Potlatch Forests, Inc., Lewiston, Idaho, this lineup of motor control centers and unit substation illustrates the modern trend in lumber mills . . . centralized control of mill motors, and load center distribution which brings high voltage power close to centers of electric load to be stepped down and carried to motors by short feeders. Load center systems reduce hazard to equipment and personnel and give you less voltage drop and lower power losses, more efficient operation. Write for Bult. GEA-4979 and GEA-3592.

Union Lumber Co., Fort Bragg, California, recently installed 26 3-hp, 1800-rpm, vertical Tri-Clad* motors and control for driving 60-inch, 10-blade air circulating fans in their new dry kiln. The motors, mounted on kiln roof, drive the fans through specially designed shafts and gears to give about 400 feet per minute air velocity. G-E automatic timing and reversing switches provide for reversing the circulation at regular intervals for uniform drying.

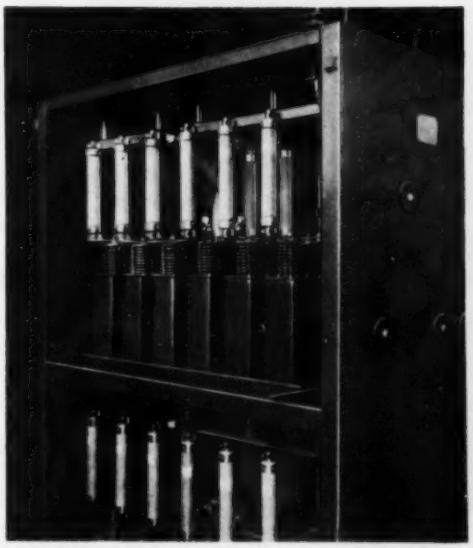


At True-Cut Lumber Co., Sweet Home, Oregon, this G-E 50-hp, Tri-Clad* induction motor drives the two head saws. Tri-Clad construction for tough mill service gives you your biggest motor-dollar's worth. You get three-way extra motor protection against physical damage, electrical breakdown, and operating wear and tear. Write for Bulletin GEA-3580, "G-E Tri-Clad Induction Motors."

CONSIDER ELECTRICAL MODERNIZATION FOR YOUR MILL

Let General Electric help you with mill modernization plans. You get far more than fine electric equipment. You benefit from skilled engineering help on application problems . . . constant pioneering in new ways to cut lumber-mill costs electrically . . . quick service from any of 31 service shops to keep your mill on the go . . . coordinated selection, manufacture, and shipment of electric equipment to simplify ordering, save your engineers' time, meet your construction schedules. For more information and service contact your nearest G-E sales office today, or write *General Electric Co., Schenectady 5, N. Y.*

WESTERN PLANTS OR SERVICE SHOPS: Anaheim, Denver, Los Angeles, Oakland, Ontario, Portland, Richland, Salt Lake City, San Diego, San Francisco, San Jose, Seattle. WESTERN SALES OFFICES: Albuquerque, Bakersfield, Butte, Denver, Eugene, Fresno, Los Angeles, Medford, Oakland, Pasco, Phoenix, Portland, Riverside, Sacramento, Salt Lake City, San Diego, San Francisco, San Jose, Seattle, Spokane, Stockton, Tacoma.



Pickering Lumber Corp., Standard, California, says about G-E capacitors: "We installed a 420-kvar bank of G-E Pyranol* capacitors in 1939, at a cost of $4400. They raised our power factor from 72 to 96 per cent and enabled us to avoid the penalty clause for operating below 80 per cent. In fact, we became eligible for a bonus. We find this installation has made an average *annual* saving in our power bill of $2630.43. Since 1939, this has amounted to $28,930!" Write for GEA-2742, "G-E Pyranol Capacitors."

*Registered trademark of General Electric Co.

CO-ORDINATED SYSTEMS FOR LUMBER MILLS

GENERAL ELECTRIC

456-19

increase production...

ATKINS "Silver Steel"

HIGH SPEED STEEL INSERTED TEETH

...lower costs!

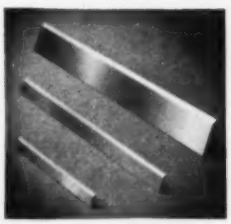
Because they are *tougher* and *stay sharp longer* you will save time and labor—realize greater profits—when you specify Atkins *"Silver Steel"* inserted teeth saws! Mill operators all over America are proving it! Savings up to 400% are being reported!... Here's something that warrants your closest investigation. Get the facts—and you'll get Atkins!

ATKINS "Silver Steel" BAND SAWS

Precision-built to *"fit the job,"* Atkins *"Silver Steel"* band saws have long demonstrated their outstanding superiorities—superiorities that result in cutting more board feet, with fewer filings and at lowest cost!

ATKINS High Speed Steel PLANER KNIVES

Results count! And it's the counting of results by operators which has put *"Silver Steel"* knives in first place preference class with operators from coast to coast! Don't take chances! Take advantage of Atkins *"Silver Steel"* quality, instead!



AAA ATKINS

E. C. ATKINS AND COMPANY
Home Office and Factory: 402 S. Illinois St., Indianapolis 9, Indiana

ATKINS

No ONE chain serves every purpose

LINK-BELT offers the right chain

. . . engineered for your requirements

Don't settle for a "cure-all" chain to handle every job. Different types of chain have different characteristics. That's why Link-Belt makes a complete line of chains. Our engineers can recommend the correct type of chain to fit your particular needs . . . the one that does your job best.

Equally important is your assurance that *any* chain with the Link-Belt name will give you longer chain life. Accurate control of raw materials and processes . . . plus manufacturing refinements add up to the highest standards.

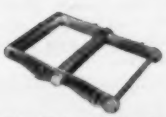
LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, factory branch stores and distributors in principal cities. 12,751-A

LINK-BELT

CHAINS AND SPROCKETS

Four strands of Link-Belt class H pintle chain convey lumber from sawmill to stacker building prior to drying in kilns.

Typical chains from the complete LINK-BELT line



Class H drag chain—for drag conveyors, handling sawdust or other refuse in runways or troughs.

Class H Pintle chain—excellent for conveyors that slide, because of broad wearing surfaces.

Class SS bushed roller chain with offset sidebars—for heavy drive service at moderate speeds.

Roof-top pintle chain—for transfer conveyors, each strand presenting a sturdy, moving ridge.

"O.K., be there

19 m.p.h. TOURNASKIDDER has speed loggers need . . . keeps pace with modern logging trends

During the past 20 years loggers have shared advancements in the industry which have greatly contributed to faster, more economical timber operations. Radio communications, to name just one, has materially simplified dispatching equipment from one end of your property to another. Until as recent as a year ago when modern 19 m.p.h. Tournaskidder was introduced, loggers were dependent upon slow-moving tractors whose 2 to 8 m.p.h.

SPEEDS YARDING

There's no yarding slowdown with Tournaskidder . . . which can be operated in or out while rig is in motion . . . this is a big advantage over conventional tractors which must stop, disengage clutch, operate winch, reshift for travel. Powered by twin, 2-speed, electric push-button-controlled motors, winch spools 56′ of cable per min. @ 67,000-lb. pull, or 113′ per min. @ 33,500-lb. pull. Fairlead mounted on "A" frame yards at angles to 90° . . . lets you position in tight places without keeping winch drum in line with arch.

SPEEDS SWING

New production records are being set by Tournaskidder in the Pacific Northwest. At Bute Inlet, 140 miles north of Vancouver, Bear Logging Ltd's. Tournaskidder averaged 9 to 10 trips per day over a 1-mile rocky haul with average loads of 5000 bd. ft. Big 4-wheel air brakes (2822 sq. in.) give operator confidence to work at high speeds. 21.00 x 25 low-pressure tires and instant-shift, 4-speed gear selection with Tournamatic full torque transmission, puts skidders' "186 horses" to work on all four wheels.

R. G. LeTOURNEAU, Inc.

PEORIA, ILLINOIS

in a couple minutes"

crawl contributed little to giving operators benefits of newly gained speed developed in other logging units.

Production demands modern equipment

At numerous Pacific Northwest logging shows, Tournaskidder's exceptional performance on big, fast tires, plus 19 m.p.h. speeds have more than proved its ability to keep pace with these modern trends. Enthusiastic reports of owners who are repeat buyers show Tournaskidder an ideal logging tool . . . teamed with rubber-tired arch, it meets skidding assignments fast . . . or uncoupled, hustles anywhere without waiting for trailers to handle work-and-run maintenance chores as well.

Tournaskidder's high-speed mobility and versatility can make a mighty big difference wherever timber is cut. For proof — by all means drive over to the nearest show using Tournaskidder and get a firsthand look. Or, if you prefer, get in touch with your LeTourneau Distributor who can give you all the facts without obligation.

SPEEDS TRAVEL TO COLD DECK

Modern Tournaskidder "runs instead of crawls" . . . fast, 19 m.p.h., rubber-tired mobility speeds travel to work assignments anywhere on logging shows . . . over narrow skid-roads, up steep mountain haul roads, across railroad tracks. Towing rubber-tired arch, Tournaskidder can leave instantly on assignment from dispatcher, via highway or logging roads for location miles away . . . goes right to work on arrival without usual flatbed delays and need for extra time and manpower required to road crawler-tractors.

SPEEDS WOODS MAINTENANCE

Tournaskidder, with interchangeable Angledozer or Bulldozer, can be kept busy all year as a high-speed, extra-duty logging tool. It is quickly available anywhere to deck logs, open skidways, pioneer roads or skidways, build and maintain truck-haul roads, clean out a landing, plow snow, move a donkey, pull out a stalled logging truck, help move a loader, haul spar trees, etc. Handling all these jobs and more, Tournaskidder has proven time and again, it's the best and most useful tool money can buy!

SPEEDS WORK CYCLE

All controls and instruments are directly in front of operator, within easy reach to speed work cycle, reduce fatigue. Big tires cushion ride for operator . . . take the shock instead of transferring it to engine and frame. Blade and winch have separate electric controls. Power steering simplifies maneuvering. Gear ratios of constant mesh transmission are changed by push button control . . . constant power retains vital pushing, pulling momentum. Torque converter (simple single stage type) is optional.

HIGH-SPEED, RUBBER-TIRED EXCAVATING • HAULING • LIFTING EQUIPMENT

R.G. LETOURNEAU LET EQUIPMENT

NEW!
SET!
TRIPPED!

DODGE

Tri-Matic Overload Release

FOR THE FAMOUS DODGE TORQUE-ARM SPEED REDUCER

1 *LOOSENS THE BELTS*

2 *CUTS OFF POWER*

3 *GIVES A WARNING*

Protects Your Machines

Mechanically . . Electrically

POSITIVELY!

- The Dodge Tri-Matic Overload Release is a simple, positive acting unit that replaces the standard torque arm that is regularly furnished with the Dodge Speed Reducer. (The two are interchangeable.)
- Pressure exerted by an excessive load causes a piston to move lengthwise through the unit, activating the mechanism instantly.
- This movement shortens the torque arm, loosens the belts and cuts off current simultaneously.
- A warning system can be hooked up to the micro switch of the Tri-Matic—to activate bell, siren or light.
- The Tri-Matic is calibrated for adjustment to the load conditions of any job. It can be set to act at any desired load up to the reducer's maximum capacity.
- It is easy to reset the Tri-Matic. Just pull the speed reducer back into position. This automatically cocks the release mechanism.
- The Dodge Tri-Matic Overload Release is available from distributors' stocks in sizes for all Dodge Torque-Arm Speed Reducers —in either single or double reduction series.

DODGE

of Mishawaka, Ind.

Big Load...No Strain

Roading redwood logs to the landing is the steady job of this 5-year-old "Cat" D8 Tractor. With a Hyster arch and Hyster D8N winch, it picks up average loads of 8,500 bd. ft. and makes 16 trips a day on a one-mile round-trip haul.

The owners, Santa Cruz Lumber Co., are logging in the Pescadero Basin, near Big Basin State Park, California. They have been using "Caterpillar" machines since 1936, and now operate six D8 Tractors, a No. 12 Motor Grader and a D311 Electric Set. Don Ley, woods superintendent, says: "We've never used anything but 'Cat' equipment, and due to low operating costs and dependable service we'll continue to use it. We feel it pays to standardize, and find 'Caterpillar' units tops for our tough conditions."

Right now it's more important than ever to take good care of your equipment. Proper lubrication and mechanical attention take only a few minutes a day, but they pay big profits in long, trouble-free work life. And when repairs are needed, you can count on your "Caterpillar" Dealer for prompt, efficient service.

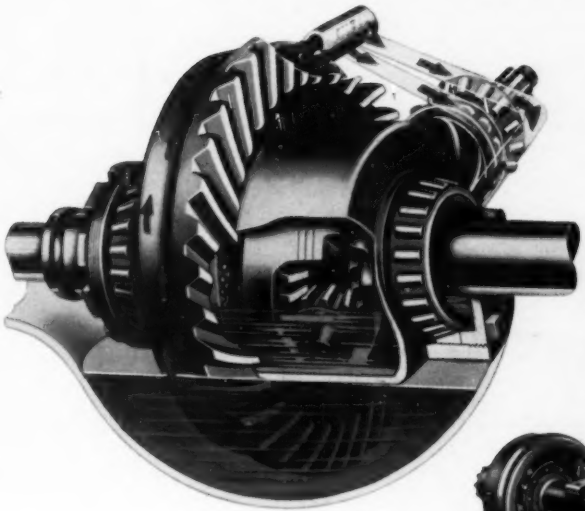
CATERPILLAR, SAN LEANDRO, CALIF.; PEORIA, ILLINOIS

CATERPILLAR

REG. U. S. PAT. OFF.

DIESEL ENGINES
TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT

exclusive forced-flow lubrication keeps Eaton 2-speeds on the job, makes them last longer

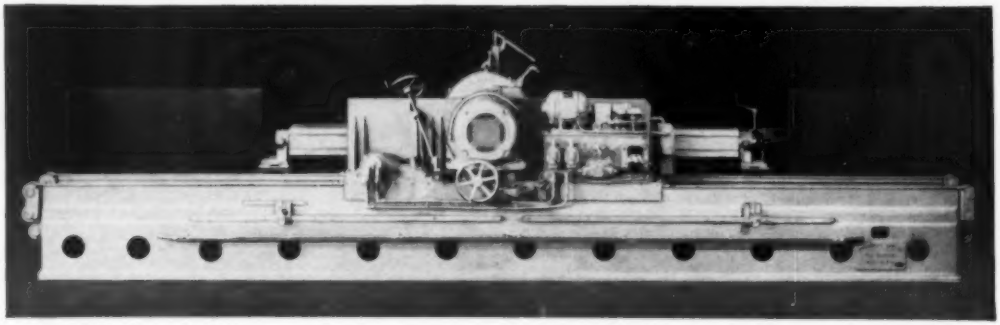


PLENTY OF LUBRICATION—always! That's one reason for the outstanding life and performance records being set by Eaton 2-Speed truck axles in every field of heavy-duty hauling! Eaton's exclusive forced-flow oiling system provides abundant lubrication even at lowest vehicle speeds. The instant gears turn over—even one revolution—oil is started on its way to all moving parts; the rate of flow is governed to meet the demands of various operating speeds. This unique lubricating system and Eaton's exclusive planetary construction are important factors in the ability of Eaton 2-Speeds to stay on the job, to deliver maximum performance with minimum upkeep. Ask your dealer to explain how Eaton 2-Speeds reduce stress and wear on engine and power-transmitting parts—how they will help *your* trucks haul more, faster, longer, at lower cost.

EATON *2-Speed Truck* AXLES

Axle Division
EATON MANUFACTURING COMPANY
CLEVELAND, OHIO

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers



SPEEDS 10′ to 100′ 30′ to 150′ And Faster **MOTORS**—7½ H.P. to 40 H.P. **WEIGHTS** 10 Tons up to 40 Tons

This great Hanchett model AK produces high speed grinding with extreme accuracy and efficiency. Grinds *FLAT* or *CONCAVE BEVEL* on any desired angle or square. Head carriage travel is free and smooth without shock under all operating conditions. Available with either cylindrical or segmental type wheels. For high speed—accuracy—choose AK!

Mechanical or hydraulic head carriage drive
Heavy duty-Massive construction-Accurate-High production
Fine finishes

AK

HANCHETT VENEER KNIFE GRINDERS . . .

FOR GRINDING VENEER, CLIPPER, HOG AND CHIPPER KNIVES

GK

- **Table driven**
- **Hydraulic**
- **Electrical**
- **Full automatic**

Tell us your knife problems. Our engineers may have a money-saving solution for you. Write Dept. L-32.

Speeds From 10 to 80 ft. Per Minute—Faster Speeds If Required
Capacity—32 to 184 Inches

Available with either Segmental or Cylinder Type Wheels

The most complete line of knife and shear blade grinders available today! Proved and improved through years of extensive research, these grinders give precision tolerances and finest finishes under heaviest grinding schedules.

HANCHETT GRINDERS BIG RAPIDS MICHIGAN

HANCHETT MANUFACTURING COMPANY

World's Largest Manufacturer of Saw Sharpening and Knife Grinding Machinery

BIG RAPIDS, MICHIGAN • PORTLAND, OREGON

A Complete Line of Transmission Belts

U. S. ROYAL TRANSMISSION BELT

Square-cut edge construction, no folds. Made with specially woven hard duck giving unusual strength with low stretch. Friction between plies is the highest quality obtainable, scientifically compounded for long life, extra flexibility. U. S. Royal friction surface provides superior traction on pulleys. Roll and cut lengths or made endless by patented U. S. Royal-Splice or by 'round and 'round method.

U. S. RAINBOW TRANSMISSION BELT

Folded edge construction. A general purpose belt known for outstanding operational economy and for maximum dependability in severe service. Duck is woven to give strength and flexibility lengthwise and body stiffness crosswise. Special friction between plies assures remarkably long flexing and aging life.

U. S. ROYAL CORD ENDLESS BELTS

Royal Cord Endless Belts are designed for use on general purpose flat drives, ranging from light to heavy duty, where the use of low stretch, high tensile strength, extra flexible, premium construction, endless belting is mandatory. Furnished in seven weights; special constructions available for use under conditions of excessive oil, heat, abrasion and corrosive chemical fumes.

U. S. ROYAL JUNIOR TRANSMISSION BELT

Designed for small machine drives. Constructed of plies of tough cotton duck, thoroughly impregnated with specially compounded rubber. A light, flexible true-running, elastic belt that performs extremely well at high speeds and withstands frequent shifting. Royal Junior has a wide range of application and requires minimum care.

U. S. SPEEDAGE CORD ENDLESS BELTS

For use where long wear, smooth-running, high speed, small pulleys, shock absorption, infrequent take-up and oil resistance are encountered. Light enough to operate at speeds in excess of 10,000 F.P.M., and thin enough to operate over pulleys as small as ⅛" in diameter.

Whatever your power transmission problem may be get in touch with "U. S." for the latest in technical advice and help. Write to address below.

PRODUCTS OF

U.S.RUBBER

SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

Look for the "U. S." name when buying Transmission Belts.

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

...to lumber

REX® CHAINS CUT HANDLING COSTS

When you select your chain from the complete Chain Belt Line, you're sure to get the exact chain that is best suited to the job. You won't be paying for unnecessary chain strength, nor will you be penalized by premature chain failures. There is one chain that is *the best chain* for every application in your mill. You'll find it in the complete Chain Belt Line.

The illustrations on these pages give you some idea of the wide variety of choice that Chain Belt offers you. Your Rex Field Sales Engineer is specially trained to help you in your selection. Call him today, or for complete information write for Bulletin 52-51. Chain Belt Company, 4653 W. Greenfield Ave., Milwaukee 1, Wisconsin.

REX®

BALDWIN-REX®

REX H-TYPE RIVETED MILL CHAIN is widely used for both drive and transfer service in mills from coast to coast. Ranges in pitch from 1.6" to 4.0". Locked pin confines flexing wear to wide bearing area.

REX CHABELCO® STEEL CHAIN combines relatively light weight with high strength. It is used in both drive and conveyor service . . . can handle heavy loads and withstand severe shock and vibration.

REX H-TYPE CONVEYOR CHAIN is used extensively for conveying sawdust and refuse. Has large capacity at slow speed. Heavy wearing shoes add to chain life.

REX ROOF TOP TRANSFER CHAIN for conveyors handling cut lumber in mills and warehouses. Made in both riveted and detachable styles. For extra long life, available in Rex Z-Metal.

REX COMBINATION DUROBAR® CHAIN is popular for all-round mill transfer service. Eccentric barrel construction makes for better sprocket action and greatly reduces chain wear.

REX ROLLER TOP CHAIN is used in parallel strands on green lumber sorting tables. Use of this unique design chain requires sorters to exert only minimum effort when pulling lumber laterally off the conveyor.

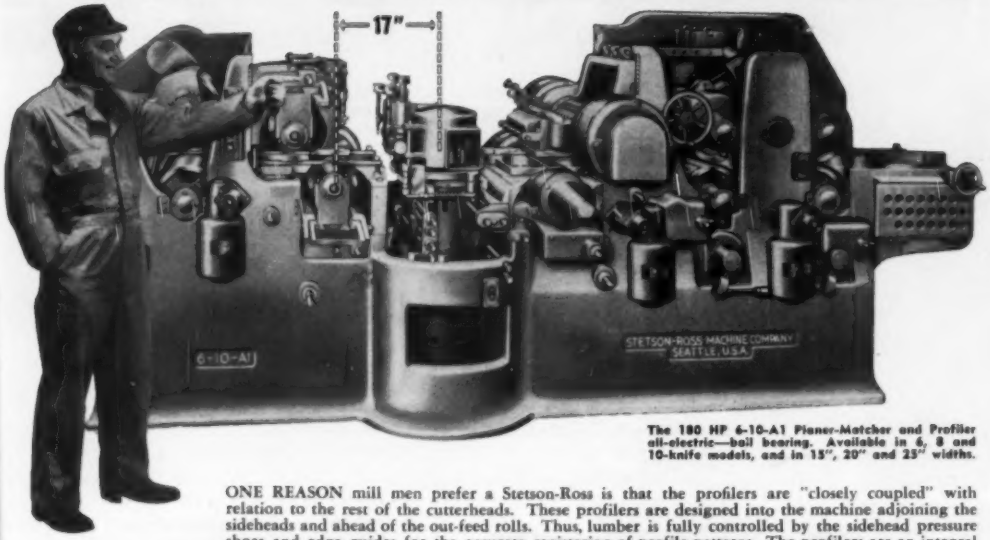
REX DROP FORGED CHAIN is preferred for log haul and refuse conveyor service where high strength and relatively low cost are desired. Often used in parallel strands connected by wooden scraper flights.

BALDWIN-REX® ROLLER CHAIN is a high strength precision steel chain suitable for high speed drive service. It is available in a complete range of sizes and strengths to suit every driving requirement. Pitch range is from ¼" to 2½".

Chain Belt COMPANY
OF MILWAUKEE

Atlanta • Birmingham • Boston • Buffalo • Chicago • Cincinnati • Cleveland • Dallas • Denver • Detroit
El Paso • Houston • Indianapolis • Jacksonville • Kansas City • Los Angeles • Louisville • Midland, Texas
Milwaukee • Minneapolis • New York • Philadelphia • Pittsburgh • Portland, Oregon
Springfield, Mass. • St. Louis • Salt Lake City • San Francisco • Seattle • Tulsa • Worcester

THE *Versatile* 6-10-A1



The 180 HP 6-10-A1 Planer-Matcher and Profiler all-electric—ball bearing. Available in 6, 8 and 10-knife models, and in 15", 20" and 25" widths.

ONE REASON mill men prefer a Stetson-Ross is that the profilers are "closely coupled" with relation to the rest of the cutterheads. These profilers are designed into the machine adjoining the sideheads and ahead of the out-feed rolls. Thus, lumber is fully controlled by the sidehead pressure shoes and edge guides for the accurate registering of profile patterns. The profilers are an integral part of the machine—not an attachment.

HERE ARE THE ADVANTAGES:

1. Profile patterns are more accurately registered—on straight stock as well as stock with crooks, bows, or twists.
2. Short stock is handled to better advantage.
3. Fewer break-ups on knotty, crooked, and cross-grained stock.
4. The out-feed rolls clear the last board through the machine completely, saving crew time and reducing losses due to machine burns.
5. Greater stability—freedom from vibration.

THE *Versatility* OF THE STETSON-ROSS 6-10-A1 is demonstrated by the wide variety of work it will do, including;

1. **All standard types of planing, matching and profiling.**
2. **The manufacture of perfectly matched flooring and decking.**
3. **Splitting of 2" stock to make two or three pieces of smoothly machined eased edge dimension stock in a single pass through the matcher.**
4. **The production of many "specials" required by your customers such as door casings, base, jambs, sills, pulley stiles and a multitude of others.**
5. **Accurately controlled ripping of narrow strips from wide boards.**

The 6-10-A1 is a fully motorized ball bearing planer with sealed-in-oil feedworks and the famous Stetson-Ross unit profiling system. It is engineered for strength, absolute accuracy of cutting units, and easy access to motors and all moving parts.
The 6-10-A1 profitably produces daily 40 to 80 thousand board feet of finely finished lumber.

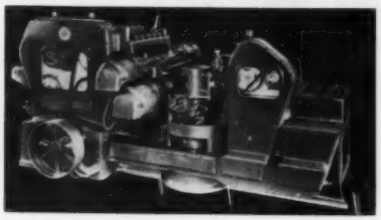
Pictured below is the Stetson-Ross Ball Bearing Profile Yoke showing the disassembled unit in the foreground, and a completed, finish jointed "Cartridge" in the background.

At the right, the setup man illustrates the ease with which the "cartridge" unit slides into place in the matcher—no outboard bearings, locking nuts, or sleeves to remove —no jointing on the machine. Down time for pattern changes is reduced 75% to 90%.

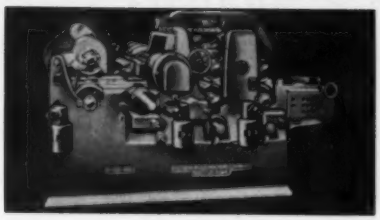
With the Stetson-Ross "cartridge" profile unit, the time-consuming job of installing and positioning the head accurately on the arbor, securing bearings, and jointing is all done in the grinding room where it can be done carefully and accurately without delaying production.

Here is a complete "production package" which need not be disturbed with each pattern change. Valuable setup hours are "stored" for later re-use.

PLANER and MATCHER

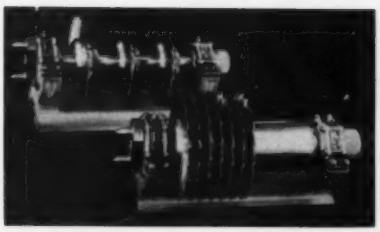


25", 8-knife 6-10A Four Side Planer and Matcher arranged for later addition of double profiles. Important features include top head sectional rocking nose chipbreakers and feedworks operating in a large oiltight case, with a cascading spray of clean oil supplied from an ample reservoir.

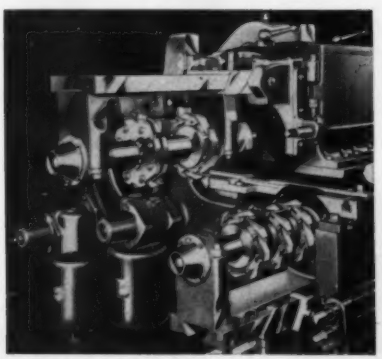


15", 10-knife 6-10-A6 Double Surfacer designed for single line feed speeds to 350 FPM. Note push button controlled hoist motors to adjust electrically top feedworks and top head when changing sizes or clearing breakups.

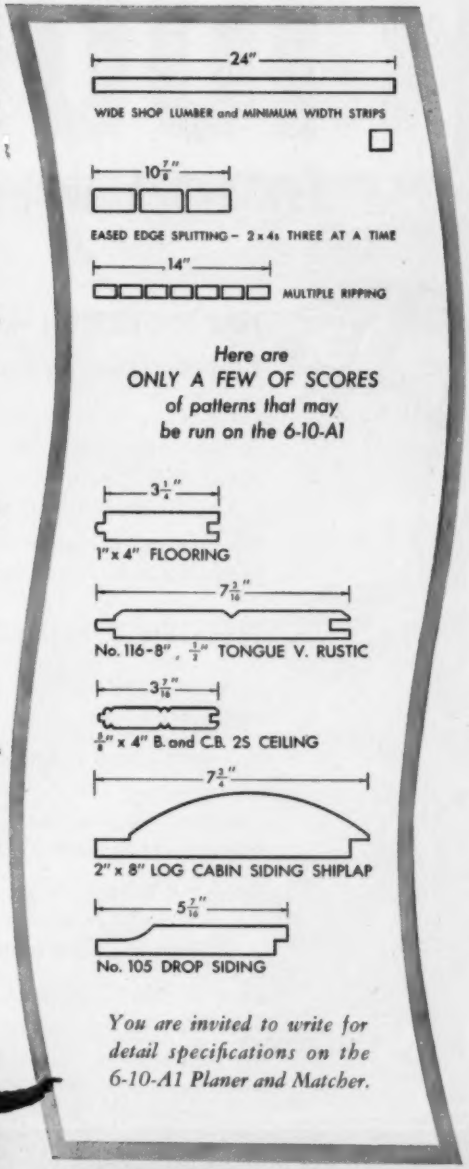
All ball bearing, belted, 15", 6-knife 6-10-A1 Planer and Matcher featuring sectional rocking nose chipbreakers, sealed-in-oil feedworks and "cartridge" cutterhead profiles.



Spring set gang rip saws illustrating both sleeve mounting and individually self-centered mounting on Stetson-Ross "cartridge" ball bearing profile units. The profiles on the machine are adjustable to align perfectly with the guide.



The pre-set profile cartridges slide easily into place on the 6-10-A1.


24"
WIDE SHOP LUMBER and MINIMUM WIDTH STRIPS
10 7/8"
EASED EDGE SPLITTING – 2 x 4s THREE AT A TIME
14"
MULTIPLE RIPPING
Here are
ONLY A FEW OF SCORES
of patterns that may
be run on the 6-10-A1
3 1/4"
1" x 4" FLOORING
7 3/16"
No. 116-8", 1/2" TONGUE V. RUSTIC
3 7/16"
1/8" x 4" B. and C.B. 2S CEILING
7 3/4"
2" x 8" LOG CABIN SIDING SHIPLAP
5 7/16"
No. 105 DROP SIDING
You are invited to write for detail specifications on the 6-10-A1 Planer and Matcher.

STETSON–ROSS
MACHINE COMPANY
SEATTLE 4, WASHINGTON

Export Division: 301 Clay Street, San Francisco 11, Calif.

only Allis-Chalmers can offer you

1000 Hour

for truck wheels, idlers, support rollers

FULL PROTECTION — only One Greasing Every 1000 Hours — with Allis-Chalmers *Exclusive* Positive Seal, Roller Bearing Design!

Think of it! You can operate for 6 months on a 40-hour-week basis with just one lubrication of 14 to 20 of the most-abused, hardest-to-service points on a tractor. It's possible through an exclusive combination of glass-smooth Positive Seals and anti-friction bearings that help you do more work at lower cost even under toughest conditions! And it's another ahead-of-the-field design feature found only in the four new Allis-Chalmers tractors.

These Big Benefits Mean DOLLARS to you!

DAILY GREASING PERIODS ELIMINATED. You save at least 30 minutes every day . . . gain about one full month's production every year.

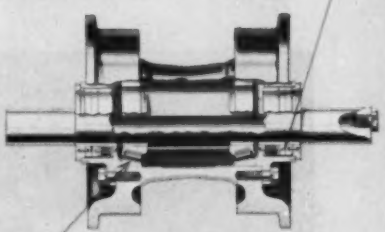
FULL PROTECTION ASSURED. Positive Seals keep grease in . . . dirt and moisture out. 1000-Hour Lubrication gives you protection unchallenged in the tractor field.

SAVES ON GREASE. Truck wheels, idlers and support rollers are grease-filled at the factory . . . need new grease only once every 1000 hours!

EASY TO SERVICE. No more cleaning of dirt, muck and grime from fittings every day. Operator can choose time and place to regrease when conditions are favorable.

Here's the secret:

Positive Seals each have two spring-loaded steel rings — one stationary, the other turning with the wheel. Ground smooth as glass, they seal the grease in . . . keep dirt, grit, dust, mud and water *out*.



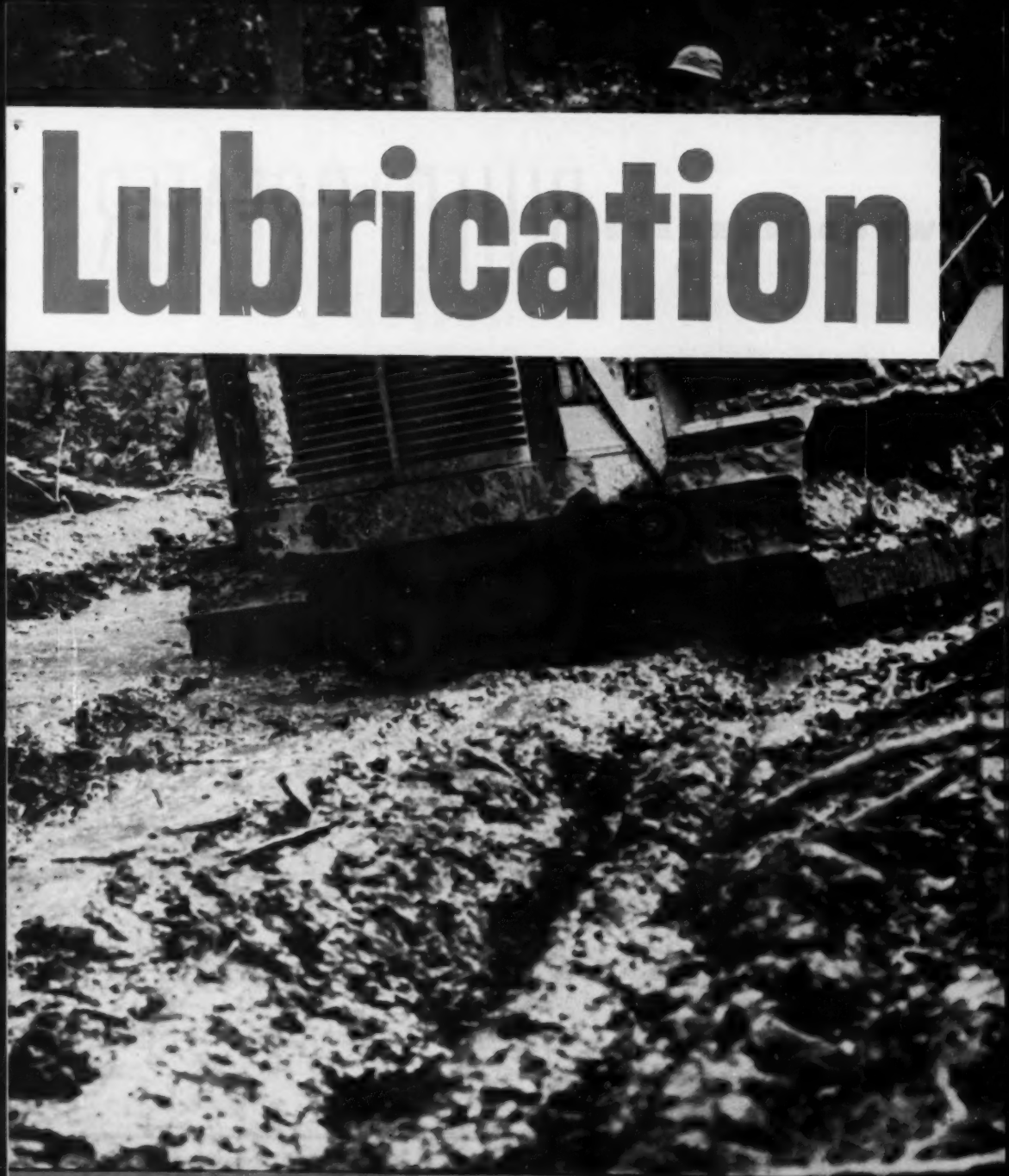
Tapered Roller Bearings protect the Positive Seals by letting truck wheels, idlers and support rollers rotate freely...without side thrust or wobble. Reduced friction lets the tractor move easier, produce more drawbar power.

the newest finest tractor line on Earth!

HD-20 HD-15 HD-9 HD-5

DESIGNED FOR YOUR JOBS • BUILT TO TAKE IT • EASY TO OPERATE • EASY TO SERVICE

Lubrication



ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

WOOD WORKERS BUILD GREATER

CUSTOMER SATISFACTION *by* PRESERVING SASH *and* FRAMES *with*

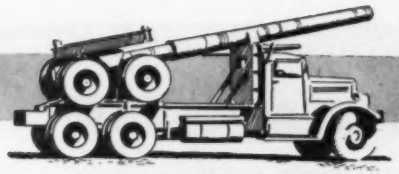
WOOD TOX

The Millwork Industry is doing an outstanding job of improving their customer relations by preservatively treating sash, frames, and other woodwork items. WOODTOX 120 is the superior water-repellent preservative for this work: it protects millwork against termites, stain, decay and rot. Meets NWMA requirements on Swellograph Efficiency. The water repellents of WOODTOX 120 give treated wood a marked degree of dimensional control to minimize shrinkage, swelling and warping.

RESEARCH and TECHNICAL SKILL MAKE THE DIFFERENCE

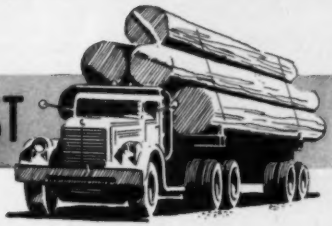
WOODTOX 120
is only one of our complete line of wood preservatives . . . write for details today.

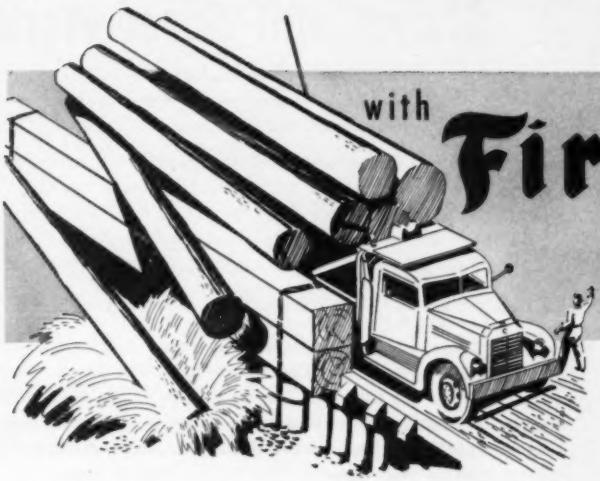
WOOD TREATING Chemicals Co.
5137 SOUTHWEST AVENUE
SAINT LOUIS 10, MISSOURI



LOGGING TRUCKS

DELIVER LOADS AT LOWER COST





with Firestone TIRES

LOGGING operators who keep a close eye on earnings know that they must keep tire costs at a minimum to have a profitable operation.

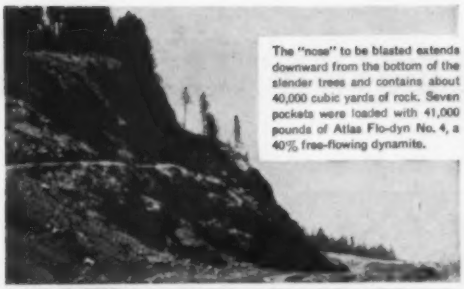
With Firestone Tires you can reduce your hauling costs because they are built to give extra hours of service without downtime loss. It's the extra depth of the treads . . . the four extra plies under the treads . . . the double-thick and snag-resistant sidewalls protecting the Gum-Dipped cord bodies that make Firestone Tires stand up and keep going longer.

Get the Firestone Rock Grip for the toughest going where extra traction is needed and the Firestone All Traction Logger for all around performance in the woods and on the haul road.

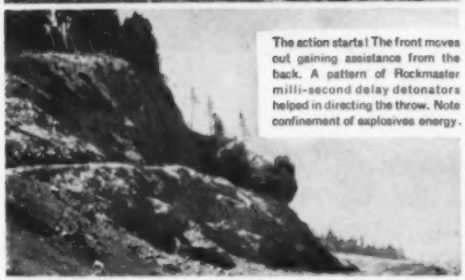
WHEN ORDERING NEW EQUIPMENT SPECIFY FIRESTONE TIRES

Enjoy the Voice of Firestone on radio or television every Monday evening over NBC

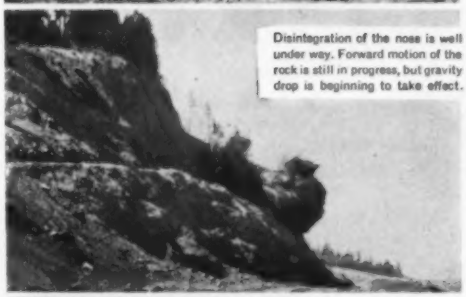
Copyright, 1952, The Firestone Tire & Rubber Co.



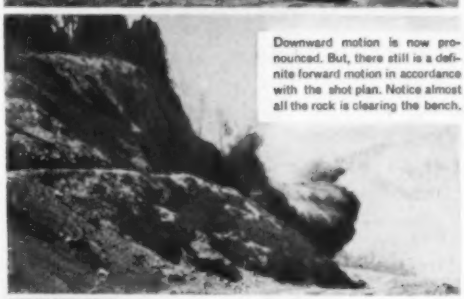
The "nose" to be blasted extends downward from the bottom of the slender trees and contains about 40,000 cubic yards of rock. Seven pockets were loaded with 41,000 pounds of Atlas Flo-dyn No. 4, a 40% free-flowing dynamite.



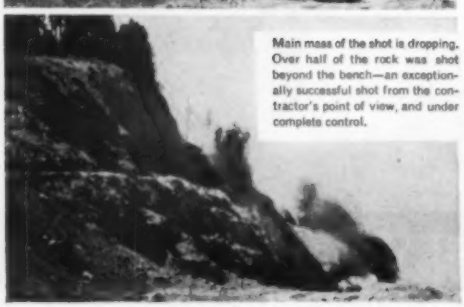
The action starts! The front moves out gaining assistance from the back. A pattern of Rockmaster milli-second delay detonators helped in directing the throw. Note confinement of explosives energy.



Disintegration of the nose is well under way. Forward motion of the rock is still in progress, but gravity drop is beginning to take effect.



Downward motion is now pronounced. But, there still is a definite forward motion in accordance with the shot plan. Notice almost all the rock is clearing the bench.



Main mass of the shot is dropping. Over half of the rock was shot beyond the bench—an exceptionally successful shot from the contractor's point of view, and under complete control.

ROCKMASTER® BLASTING Reduces Costly Shovel and 'dozer Work

Oregon contractor employs Atlas milli-second delay system to make rock jump bench and land on valley floor.

Shovel work on a rough bench can be mighty expensive. Every cubic yard of rock that could be blasted off the "nose" and onto the valley floor meant substantial savings for the contractor on this highway and railroad re-location job near Lookout Point Dam, Oregon.

Leonard & Slate Ltd. of Oregon and E. C. Hall Company tackled the job with the milli-second delay action of the ROCKMASTER Blasting System. The result: over half of the rock was thrown to the valley floor. And they could have *kept the rock on the bench* if they wanted it there—thanks to ROCKMASTER'S remarkable control over throw.

See how ROCKMASTER control can be put to work for *you*. Send for the free 20-page ROCKMASTER book showing typical loading patterns for all principal types of *controlled* blasting.

ATLAS EXPLOSIVES

ATLAS

"Everything for Blasting"

ATLAS POWDER COMPANY • WILMINGTON 99, DELAWARE

Offices in principal cities

SAN FRANCISCO 4, CAL. • SEATTLE 1, WASH.

Dust begins to settle. Rock is well spread for the shovels—on the valley floor. Controlled blasting saved a lot of costly work on the bench with shovels and bulldozers.

Where big production—and big paychecks—depend on steady and regular going, that's where you'll depend on Disston. Lots of lightweight power is what's needed for day-in, day-out going in the big woods—and that's what the Disston Intermediate Saw gives you!

New!

LIGHTWEIGHT 9 HP DISSTON INTERMEDIATE CHAIN SAW that handles any woodcutting job!

Lay that DA-211 against a log, and let the chips fall where they may! It's a pleasure to feel those 9 horses bite evenly and steadily through the wood. Remember, too, you need no other saw than a Disston Intermediate for a complete all-round woods job.

HERE'S the power chain saw you've been waiting for—the new 9 hp, 2 cylinder Disston Intermediate Chain Saw, the DA-211. This rugged, dependable production tool will never wear you out. Its 9 big horses are capable of handling any woods job, yet its balanced light weight makes it easy to heft. It's made to deliver years of satisfying, trouble-free cutting power. That means it stays out of the shop and remains in the woods, where it belongs.

Get free illustrated literature, complete with technical information. Just fill in the coupon and mail it today.

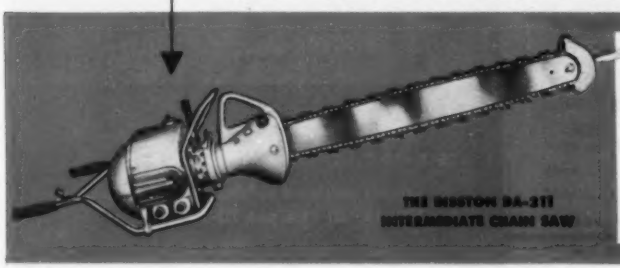
HENRY DISSTON & SONS, INC.
PHILADELPHIA 35, PA., U.S.A.

On the West Coast: 635 N.W. 16th Avenue, Portland 9, Ore. • *Pacific Coast Factory:* Seattle, Wash. • *Branches:* Chicago, Ill., Vancouver, B.C. • *Canadian Factory:* Toronto 3, Ont. • *Australian Factory:* Sydney, N.S.W.

POWERED BY MERCURY GASOLINE ENGINE

LOOK AT THESE GREAT MADE-TO-LAST FEATURES...

2 cylinder, 9 hp Mercury gasoline engine • Perfect balance—no vibration • Automatic clutch • Automatic chain oiler • Dependable float-feed carburator • Simplified, positive controls • Self-rewinding starter • Rugged magnesium castings • Available with "L" or "C" chain • 2' to 7' (incl.) new narrow-profile slotted rails • Positive stop switch • Oversize fan for cool operation • Transmission swivels to any position—can be easily removed



Henry Disston & Sons, Inc. (Adv. Dept.)
Philadelphia 35, Pa., U.S.A.

Please send me information on the 9 hp DA-211 Disston Intermediate Chain Saw.

Name.....

Street.....

City..... State.....

15-C

The BLADE that helps your logging ROLL

TOUGH Bucyrus-Erie Bulldozers and Bullgraders have special design advantages that make them stand up and stand out on logging operations.

SCIENTIFICALLY CURVED MOLDBOARD keeps dirt "alive" and rolling, cuts down load resistance, speeds up the job. A big advantage in building and maintaining logging roads, opening skidways, spreading road surfacing materials, removing snow.

BALANCED DESIGN of blade to tractor retains vital tractor balance so that full tractive effort is concentrated at the blade. That's why Bucyrus-Eries make the most of International Tractor power in yarding and cold decking logs, cleaning up stumps and rocks. In addition balanced design means extra safety for work on the near impossible grades encountered in logging operations.

ANGLING RIGHT OR LEFT AND TILTING of Bullgrader blade can be done easily by one man—in seconds. No special tools required. Tilt is especially handy for ditching, digging around stumps, and for starting a bank cut. And the Bullgrader's angle position can't be beat for chunking out a haul road on a steep hillside.

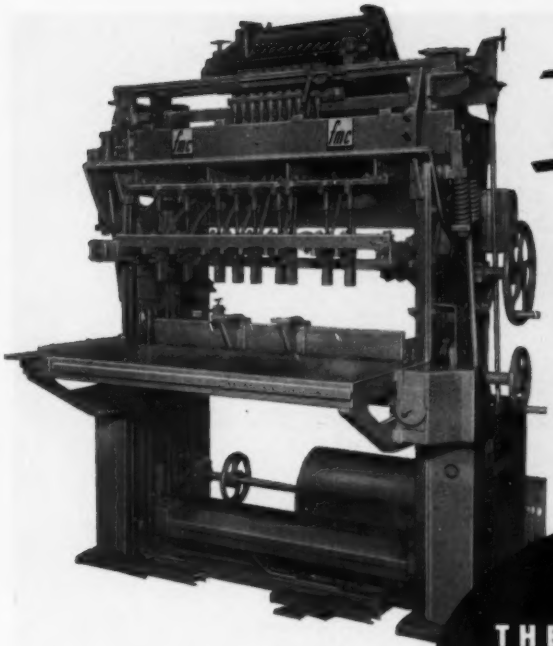
Keep your logging operations rolling faster with a Bucyrus-Erie Bullgrader or Bulldozer. Get the complete and convincing story from your International Industrial Tractor Distributor. 311T51

Hydraulic Bulldozers and Bullgraders for TD-6, TD-9, TD-14A and TD-18A tractors.

Cable Controlled Bulldozers and Bullgraders for TD-14A, TD-18A and TD-24 tractors.

BUCYRUS ERIE

SOUTH MILWAUKEE
WISCONSIN



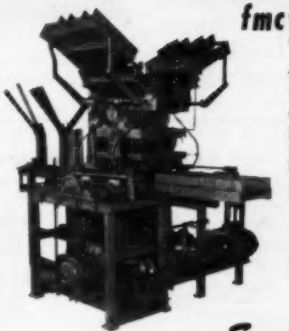
fast low cost production of

GRAIN DOORS
SKIDS AND PALLETS
OUTDOOR FURNITURE
BOX FRAMING

THE *fmc* INDUSTRIAL (OPEN BACK) EDGE NAILER

WORK PASSES IN FRONT OF OR THROUGH THE MACHINE

The *fmc* Industrial Edge Nailer is an open back machine with nailing chucks mounted in front of the frame. This permits work to pass in front of the machine as well as through it. Grain doors, skids and pallets, outdoor furniture, prefabricated house sections, regardless of length, can easily and quickly be nailed on this versatile machine. Nailing tables, jigs, cleating attachments and special equipment can be specially engineered to fit job requirements. Fill out the coupon below for complete information.



fmc TYPE R. V. AUTOMATIC VEGETABLE CRATE END MAKER

This machine makes new type W.G.A. lettuce or carrot crate ends at the rate of 800 to 900 per hour. Attachments are available for cauliflower, broccoli, Sturdee Celery, cantaloupe and 8½" x 13" bushel crate ends. Machine automatically assembles shook, drives 18 panel nails vertically and 2 spike nails horizontally from each side on every stroke and stacks finished heads.

FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION
RIVERSIDE, CALIFORNIA

fmc

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Please send illustrated bulletins on *fmc* Nailing Machines.

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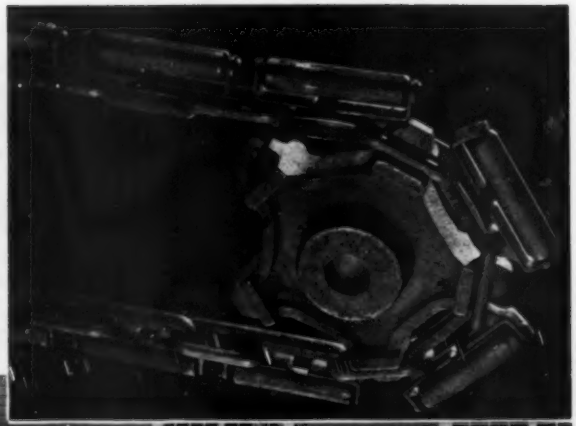
NM-24

LONG-BELL chooses MOLINE ROLLER TOP Sorting Table Chain for its new mill at Vaughn, Ore.



Top view: Timber deck of the new mill of The Long-Bell Lumber Co. at Vaughn. Bottom: Green sorting table. The Moline roller top chain in these installations assures easy handling of all lumber and timbers.

MOLINE (the original) roller top chain banishes sorting table drudgery and increases production 25% to 35%. There are no rivets to wear through; maintains accurate pitch; there is extra metal at friction points to give you longest possible operating life. The Long-Bell Lumber Co. installed over 4,000 feet of Moline chain in its new modern mill at Vaughn, Oregon.

Contact These Dealers and Distributors for Sales and Service

J. W. Minder Chain & Gear Co. 307 S. E. Hawthorne Blvd., Portland, Oregon — EMpire 1131; 6011 So. Central Ave., Los Angeles 1, Calif. — ADams 3-7221

Hudson Machinery Co.
Tacoma, Wash.
668 East 11th Street
MAin 2617

Electric Steel Foundry Co.
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Fisher Bros. Company
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Western Equipment Ltd.
965 Yates St., Victoria, B. C.
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Electric Steel Foundry Co.
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Industrial Machinery & Supply Co.
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Chain Gear, Inc.
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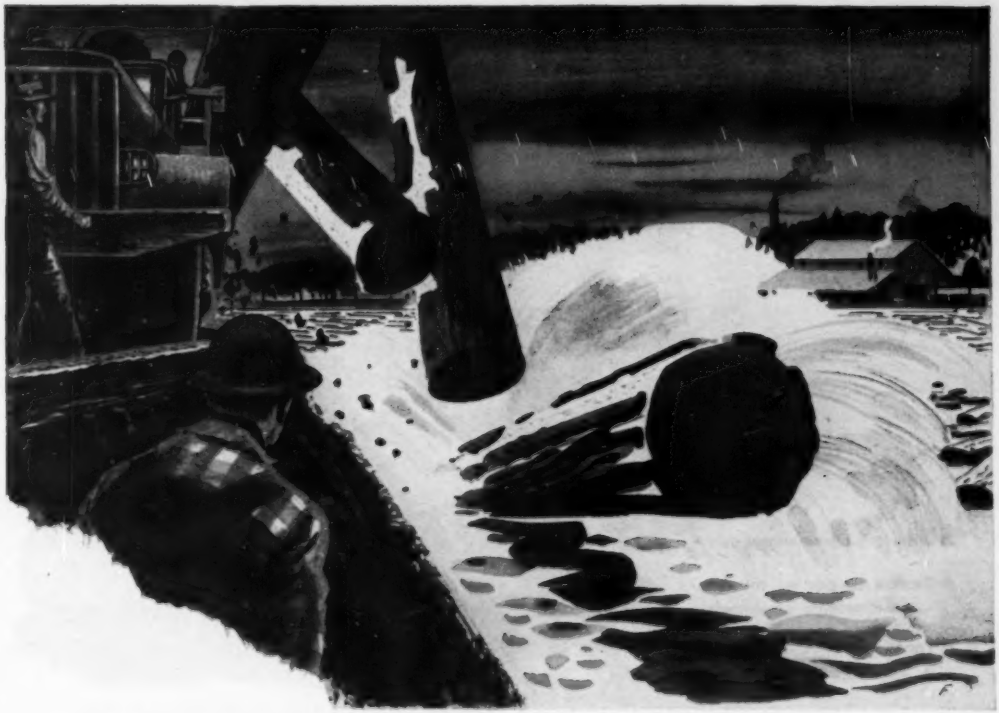
MAKING MALLEABLE IRON CHAINS FOR 50 YEARS

MOLINE MALLEABLE IRON CO. ST. CHARLES, ILL.

WHY T5X GIVES OUTSTANDING LUBRICATION ON RUGGED JOBS



Western lumbermen have found that heavy-duty T5X motor oil can be relied on for outstanding lubrication protection at *all* times—in the woods, on the road, or around the mill. Here's why T5X—industry's unique *purple* motor oil—is known as the lubricant for rugged jobs:

1. T5X is made by blending a pure paraffin-base stock with a unique combination of additives found in no other motor oil.
2. These additives give T5X its amazing ability to resist oxidation, corrosion and acid action.
3. In addition to thorough protection against wear, T5X provides *thorough cleansing action.* The detergent action keeps pistons, ring grooves and ring slots clean and free from sludge.

T5X gives outstanding protection and performance in *any* kind of internal combustion engine under *every* kind of operating condition. This all adds up to a motor oil that increases engine efficiency, lessens wear, and lowers your maintenance and repair costs.

A Union Oil Lubrication Engineer will gladly tell you more about T5X and other Union products designed for the lumber industry. Just call the nearest Union Oil Office or write Sales Department, Union Oil Company, Los Angeles 17.

76 UNION OIL COMPANY
OF CALIFORNIA

Adjustable to All Conditions . . .

Mereen-Johnson VERTICAL BAND RESAW

- Individual feed motor drive
- Double supporting column — no overhanging wheels
- 100% anti-friction bearings throughout

Mereen-Johnson Resaws have special features that make for production economies and low maintenance costs. Eight feed rolls hold the stock rigid and eliminate "stock wobble". Variable feed drive — tilts for bevel siding. V-belt drive, 1200 RPM motor.

For full description and specifications, send for Bulletin No. 210B

Mereen-Johnson MACHINE COMPANY

4401 LYNDALE AVENUE NORTH • MINNEAPOLIS 12, MINNESOTA

There are 8000 bd. ft. in this stick of redwood, towed by a Carco Redwood Arch and J Winch. Compare size of man, behind log.

HAUL BIGGER LOADS—consistently!

After the chokers are set on a profitable load of logs, it's *line pull* that counts! And the way to get maximum line pull from any tractor—wheeled or crawler, large or small, new or old—is to equip it with the matching Carco winch.

The reason is simple. Carco engineering is backed by the widest field experience of any winch manufacturer, embracing all types of logging, and all makes of tractors.

Shafts, gears and bearings in the Carco winch are ruggedly constructed and efficiently lubricated for day-in, day-out handling of big loads. If the tractor can stand the gaff, so can the Carco winch! You expect greater value from the leading producer and you get it from Carco, first in production of tractor winches. PACIFIC CAR AND FOUNDRY COMPANY, Renton, Washington. Branches at Portland, Ore., and Franklin Park, Ill.

WINCHES FOR ALL INDUSTRIAL TRACTORS

CARCO®

Accurate glue joints

. . . direct from the saw!

High speed rough sawing, or high speed precision accuracy in cutting straight and hollow joints, it's all one to the G. M. Diehl No. 750 Rip Saw.

For wherever it replaces other equipment, this massive, precision-built machine is setting efficiency and production records. The No. 750 incorporates all the proved features of its predecessors plus many improvements, such as wider tables, higher standard speeds and friction bearings throughout.

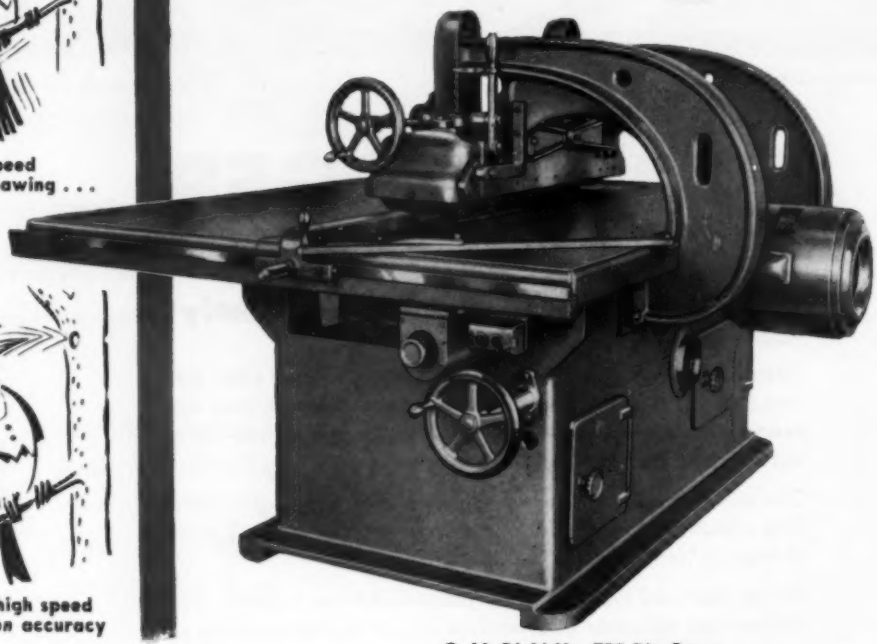
The massive welded base absorbs vibration. All driving equipment is protected from sawdust. The heavy pressure arms are capable of maintaining pressure with a 1500% overload, to assure positive precision at all times.

These are a few reasons why the No. 750 is becoming the standard in heavy-duty rip sawing, just as was its predecessor, the Diehl No. 75.

See your representative, or write the factory today, for complete details on how to obtain accurate glue joints direct from the saw—with the Diehl No. 750.

High speed *rough* sawing . . .

. . . or high speed *precision* accuracy



G. M. Diehl No. 750 Rip Saw

On the Banks of the Wabash

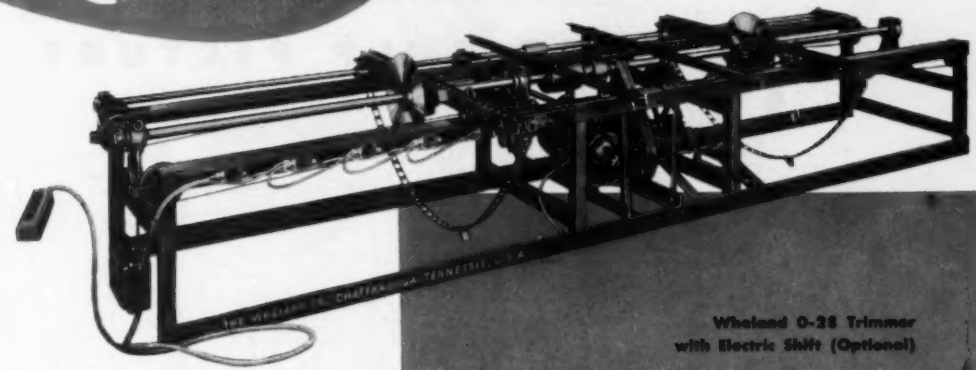
THE G. M. Diehl MACHINE WORKS, INC.

WABASH, INDIANA • U. S. A.

WHELAND 0-28

IRON AND STEEL TWO SAW TRIMMER

NOW AVAILABLE with electric saw shift AS OPTIONAL EQUIPMENT



Wheland 0-28 Trimmer with Electric Shift (Optional)

ONE MAN OPERATION. *All controls easily accessible.*

EASILY MOVED. *Welded structural steel frame in two sections, easily bolted together in center. Very strong, rigid. Entirely self-contained.*

TIMKEN TAPERED ROLLER BEARING SAW ARBOR. *Saw arbor has four bearing boxes and arbor is key seated full length. Pressure grease lubricated.*

SAWS *changed easily and quickly without disturbing bearing adjustment.*

TWO SPEED FEED WORKS *is self-contained and built into the frame. You can start, stop or change speed with the single conveniently located control.*

CHAIN GUIDES *are structural steel, welded together, actuated by steel cables.*

PUSH BUTTON CONTROL CAN BE LOCATED TO SUIT OPERATOR'S CONVENIENCE.

SAWS ARE SHIFTED BY LEVERAGE NEAR THE CENTER OF THE SAW. EASIER TO SHIFT AND PREVENTS BENDING OF SAWS AND CRAMPING OF SAW COLLARS ON MANDREL.

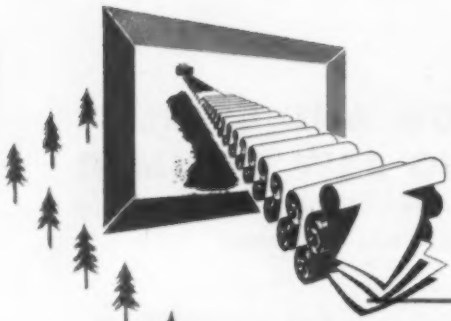
WHELAND

BULLETIN WITH DETAILS AND SPECIFICATIONS ON REQUEST

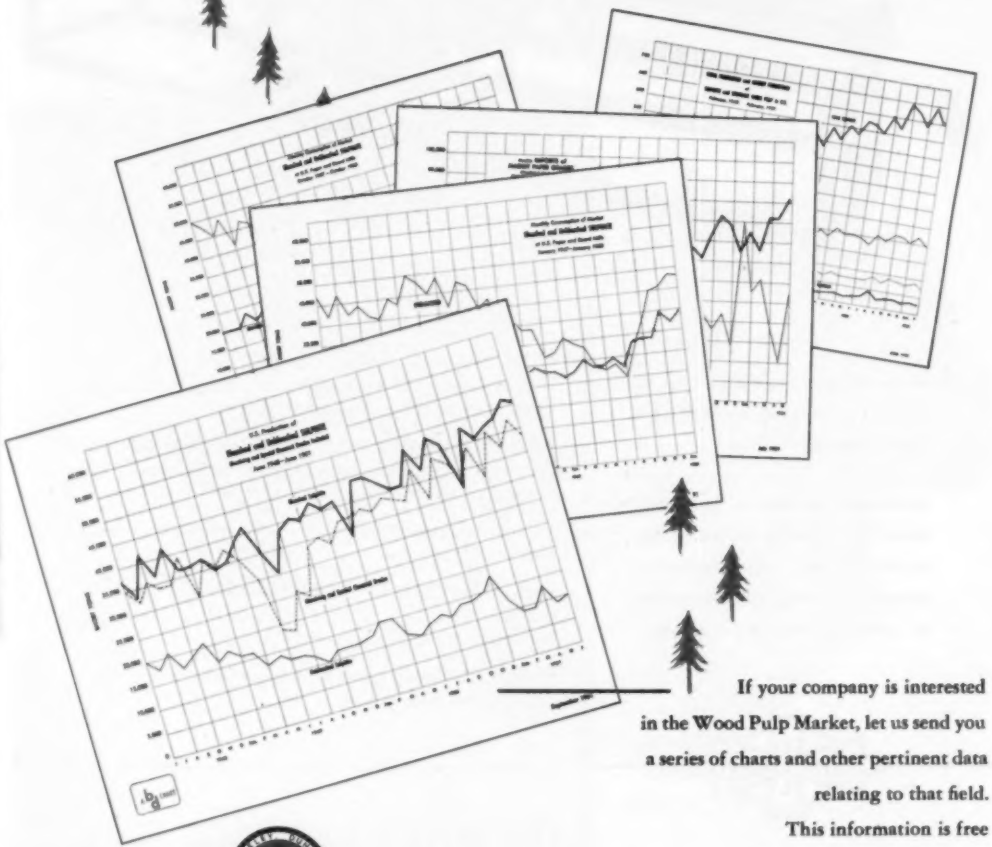
The WHELAND Company

CHATTANOOGA, TENNESSEE

FOR OVER 80 YEARS...THE FOREMOST NAME IN SAWMILL EQUIPMENT



Look into the
WOOD PULP PICTURE



If your company is interested in the Wood Pulp Market, let us send you a series of charts and other pertinent data relating to that field. This information is free and you assume no obligation.

BULKLEY, DUNTON PULP CO., INC.
295 Madison Avenue, New York 17, N. Y.

LET REPUBLIC SUPPLY YOUR INDUSTRIAL NEEDS!

We said (to the customer on the other end of the phone): "Where are you located?" *He said:* "In the Pacific, about five fathoms deep." *We said:* "We'll send a man right down." *The moral:* Let Republic Supply your industrial needs.

Come diving bell or high water—wherever you are, whatever you do, you'll do better with Republic Supply's friendly, helpful service.

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Pipe, valves and fittings • abrasives • shop supplies and tools • rigging materials • mechanical rubber goods • machinery • oil field supplies

CUTTING 16 FT. X 27 IN. RED OAK LOG INTO 700 BOARD FEET OF LUMBER IN 10 MINUTES! Operators are Bynum Keene, Block-Setter (left), and Marvin Horn, Sawyer. Saw is a Disston Style "C" 60-inch inserted tooth on a #1 Frick Mill. Disston Saws have large open gullets to allow free discharge of sawdust, which reduces friction and permits faster feeds.

WHITT WYSOR, FILER, shown filing teeth. Mr. Wysor reports that Disston Saws require much less attention and that teeth last from 2 to 2½ times as long because of the reduced need for frequent filing and the extra cutting length. What's more, a Disston tooth stays tight—there's no tooth movement, no rim strain. Mullins Lumber Co. cuts about 45,000 ft. of lumber with one set of teeth—far above the former average.

DISSTON® CIRCULAR SAW BOOSTS PRODUCTION 20 to 30%!

—Douglas E. Mullins Lumber Co., Richlands, Va., reports new highs in hardwood lumber production with important cost savings after changing to Disston Saw.

Now production is really humming in this busy Virginia mill! Their new Disston 60″ Style "C" Inserted Tooth Circular Saw is cutting over 16,000 ft. a day—an increase of 20 to 30% over the former average. What's more, this Disston Saw saves up to 50% in maintenance labor.

Formerly, resharpening time amounted to about 30 minutes every two hours. Now, with the Disston Saw, resharpening down-time has been cut to 30 minutes every *four* hours!

Disston Inserted Tooth Circular Saws are made in a complete range of thicknesses and tooth spacings; from 10″ to 72″ in diameter. The Disston Saw used by the Mullins Lumber Co. was specially recommended by the local Disston distributor. Your Disston distributor will be glad to study your operations and make recommendations. Contact him direct, or write us.

DOUGLAS E. MULLINS, OWNER-MANAGER, inspecting red oak pieces from log shown in top photo. According to Mr. Mullins, the Disston Saw really "stands up and takes the cut clear in hardwoods such as hard maple, oak, beech, and hickory." He reports also that a smoother cut is obtained, which results in better lumber. Furthermore, the Disston Saw has never heated up in usage.

FREE! **The Disston "Fight Waste" Plan to boost productive efficiency**

Save vital tools, materials, manpower—increase production! "Waste Control Cards" cover 31 cutting tools—tell how to choose and use the right tool for each job. Valuable booklet, "The Pocket Foreman," reprints all cards; tells foreman how to use plan for maximum benefits in increasing efficiency. All material supplied by Disston *Free!* Ask your Disston Distributor for complete information, or write us direct.

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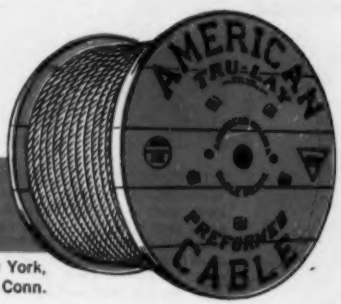
an ACCO product

TRU-LAY Preformed WIRE ROPE

● For each use there is *one best* wire rope . . . one that will stand repeated loading, abrasion, crushing, or continuous bending, and be the best rope to buy.

To achieve this, there is a TRU-LAY Preformed Wire Rope made in a special construction for your equipment. This construction has the exactly right combination of strength, bending life, and resistance to wear and crushing that you need.

The one best wire rope . . . TRU-LAY Preformed . . . will last you longer and cost less to use. Specify and get TRU-LAY Preformed improved plow steel—for all your equipment.



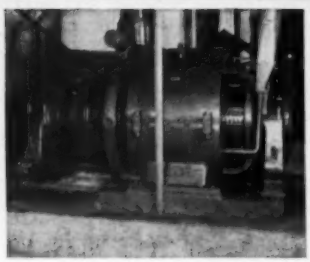
ACCO

TRADE MARK

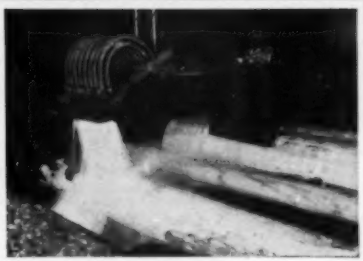
AMERICAN CABLE DIVISION
AMERICAN CHAIN & CABLE

Wilkes-Barre, Pa., Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

Accurate spotting at the cut-off saw. Westinghouse log-haul drives are built with a flexible control that spots logs accurately at the cut-off saw and saves waste. The control shown is centralized so that one man in booth (left rear) runs *both* the log-haul and cut-off saw.



No gears in this log carriage drive. And it means less inertia, snappier acceleration, less power consumption, less cable strain. Rototrol® control gives lightning-fast, satin-smooth starts. During the saw cuts, the Rototrol *precisely* maintains constant carriage speed.



One man runs this hydraulic barker. It's Westinghouse-controlled—fast, smooth, powerful. "Sequence control" automatically feeds logs in and out of chamber. Manipulating one "airplane-type" lever moves the nozzle back and forth and controls spin of the trunnion rolls.

Why it pays

to call Westinghouse when you're buying apparatus

A complete line of electrical equipment

When you're expanding or modernizing any part of your mill it's sound planning to call in Westinghouse for the electrical equipment. We make a *complete* line of apparatus for lumber and wood mills—everything from a conveyor motor control to a complete log carriage drive.

Westinghouse knows lumber mill needs

For more than 50 years, Westinghouse has worked closely with lumber and wood mills. Our engineers thoroughly understand the electrical requirements. They help you analyze each particular problem—and supply equipment to meet *the specific requirements.*

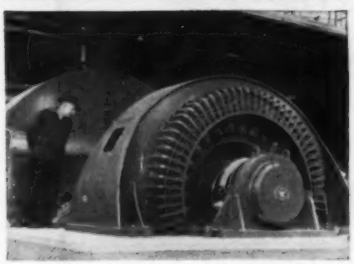
You can cut costs and increase output

Modern Westinghouse drives often permit faster sawing. Automatic control systems can be applied that save man power and improve quality. And *all* new Westinghouse equipment requires little maintenance and increases the dependability of your operations.

Call Westinghouse early on your next job

Call in Westinghouse when you modernize or expand your operations. There's a Westinghouse office near you—they're in all principal cities.

J-94872

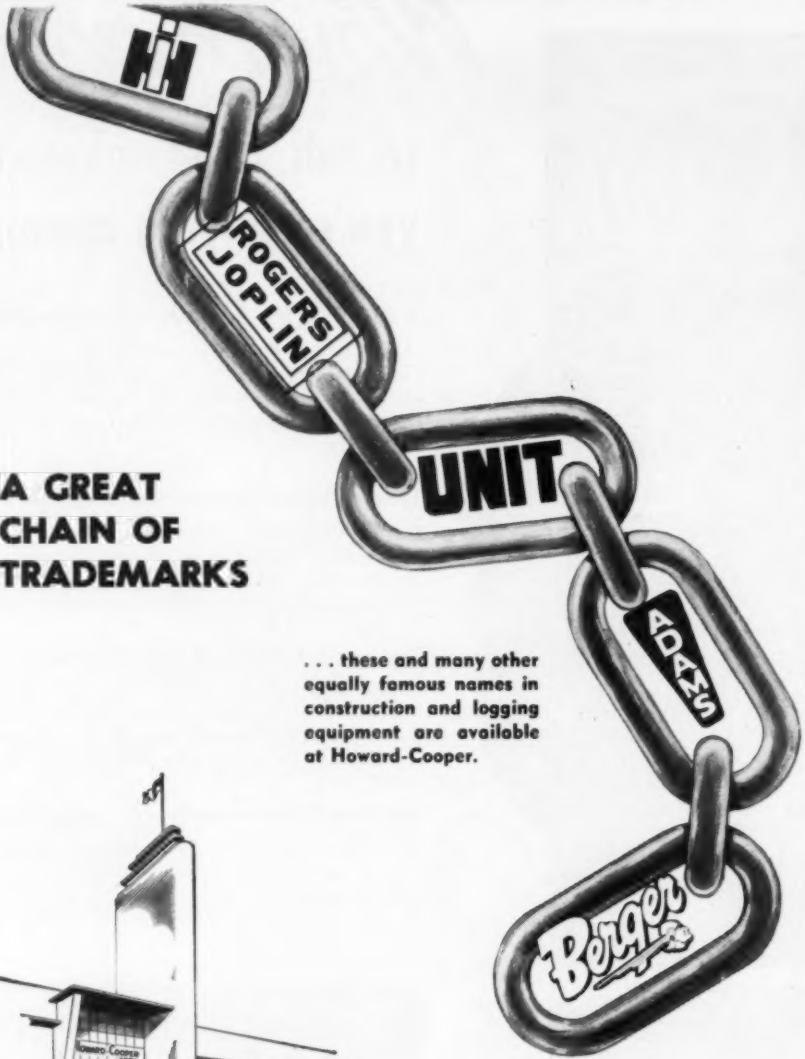


No shutdowns for this chipper motor. A specially-designed synchronous motor, it maintains constant speed under terrific impact loads; turns out uniform chips. Special features: heavily-built stator frame and rotor; massive field-coil damper bars, to greatly increase thermal capacity.

YOU CAN BE SURE... IF IT'S

Westinghouse

EQUIPMENT FOR THE LUMBER INDUSTRY

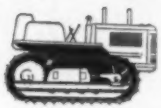


A GREAT CHAIN OF TRADEMARKS

. . . these and many other equally famous names in construction and logging equipment are available at Howard-Cooper.

Portland Headquarters: 5821 N.E. Glisan Street

Howard-Cooper Corporation

PORTLAND  OREGON

Branch Offices: Albany • Central Point • Coquille • Eugene • Newport • Roseburg • Seattle

in WIRE ROPE, too specialized use calls for the RIGHT KIND of muscle

Tough, wiry muscles stand the Rocky Mountain Bighorn in good stead; give him the sure-footed agility he must have to survive on almost impassable heights.

In wire rope, too, the right kind of muscle is mighty important... because different uses present different problems of wear and tear. Bending fatigue. Abrasion. Shock stress. Load strain. Each requires wire rope with the right construction and lay; the right grade of steel and size of wire to best withstand the destructive forces encountered.

Complete quality control from ore to finished rope; long experience and specialized know-how—these are your assurance that in Wickwire Rope you always get the proper combination of physical properties for long-lasting, reliable service on your particular job.

THE COLORADO FUEL & IRON CORPORATION—Abilene (Tex.) • Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORPORATION—Los Angeles • Oakland • Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga • Chicago • Detroit • Emlenton (Pa.) • New York • Philadelphia

LOOK FOR THE YELLOW TRIANGLE ON THE REEL

WICKWIRE ROPE
CF&I
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

REICHHOLD

FAST DELIVERIES FROM FIVE MAJOR POINTS

Wherever you are located, Reichhold shipments will reach you quickly and efficiently. RCI plants in Seattle, Wash.; Detroit, Mich.; Elizabeth, N. J.; Charlotte, N. C. and Tuscaloosa, Ala., offer you dependable service anywhere by either rail tank car or highway tank wagon. Thanks to these strategically located plants and its many field service offices, ordering from RCI is as simple as picking up your telephone. And remember, no matter which plant you deal with or which glue you select, you can always be sure of the very best . . . for RCI controls quality from raw material to finished product. Reichhold's huge production and purchasing volume assures you of maximum price protection, too. Add up the advantages any way you choose and you will agree . . . it pays to call on RCI.

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SYNTHETIC RESINS · CHEMICAL COLORS · PHENOLIC PLASTICS · PHENOL · GLYCERINE
PHTHALIC ANHYDRIDE · MALEIC ANHYDRIDE · SODIUM SULFATE · SODIUM SULFITE

See "America's Town Meeting" on TV every Sunday on ABC presented by Reichhold as a public service.

'ROUND THE WORLD

ADHESIVES

P-398 Plyophen

This liquid phenolic glue produces hard or softwood plywood and veneers of utmost water resistance with maximum speed at minimum temperature and pressures.

SW-1370 Plyacien

A powder form protein base adhesive designed for cold press no-clamp gluing operations in the manufacture of interior grade plywoods.

6000 Plyophen

A liquid resorcinol glue which produces a bond resistant to boiling and practically all solvents. Cures at temperatures as low as 75° F.

SW-1481 Plyacien

A protein base adhesive (powder form) employed in hot press gluing applications in interior grade plywood manufacturing.

P-631 Plyamine

A liquid urea-formaldehyde glue with exceptional storage stability under high temperatures. Suitable for either cold or hot press operations.

SW-1600 Plyacien

A casein adhesive (powder form) possessing excellent strength and water resistance, used for such assembly gluing operations as furniture and door manufacturing.

Plants: Detroit, Michigan · Brooklyn, New York · Elizabeth, New Jersey · South San Francisco and Azusa, California · Tonawanda, Alabama · Seattle, Washington · Chicago, Illinois
Charlotte, N. C. · Liverpool, England · Paris, France · Sydney, Australia · Gennevilliers and Ayrshires, Holland · Naples, Italy · Mannheim, Austria · Hamburg, Germany · Osaka, Japan
Toronto, Port Hawkesbury and Montreal, Canada · East London, South Africa · Barcelona, Spain · Buenos Aires, Argentina · São Paulo, Brazil · Gothenburg, Sweden · Zurich, Switzerland

Yes, Logging's come a long way from the old steam tractor . . . and one of the greatest advances in modern times is the development of the

GEARMATIC TRANSMISSION...

designed for the logging industry.

What the Logging Industry needed was a transmission that would give modern yarders the "shock" power to keep logs moving over rough ground with safety.

To meet that need the Gearmatic Transmission was developed. It's the one transmission that can deliver "controlled" power — the *extra* power you need when the load hangs up.

Specify Gearmatic on all new machines . . . and boost the efficiency of your present equipment with an on-the-job conversion to Gearmatic.

A Gearmatic Transmission makes any machine air-operated.

GEARMATIC CO. LTD.

636 WEST 6th AVENUE, VANCOUVER 9, B.C.

Representatives in the United States:

Washington: NORTHWEST INDUSTRIAL EQUIPMENT CO., SEATTLE, WASH.

Oregon: WESTERN EQUIPMENT CO., PORTLAND, EUGENE ROSEBURG, OREGON

California: B & S SUPPLY CO., EUREKA, CALIFORNIA

How to haul BIGGER PAYLOADS without overloading

It's dollars to doughnuts that you want to haul a whopping big load of logs every time out. But you certainly *don't* want to overload your truck—and have it quit on you before its time.

To haul bigger loads without overloading, *you've got to have a truck designed especially for your operation.* A Dodge *"Job-Rated"* truck is exactly such a truck!

You'll find a lot of reasons why a Dodge does such a bang-up job with big loads. For example, better weight distribution permits a Dodge *"Job-Rated"* truck to carry more weight on the front axle, as a result you can carry *more payload* on your truck.

But that's not all! All load-carrying units of a Dodge truck are *"Job-Rated."* You get a hefty, husky frame that's got what it takes to handle Paul Bunyan timber. And you get springs, rear axle, wheels and tires that are factory-engineered to stand up under big loads.

But why not let your nearby Dodge dealer show you *all* the reasons why a Dodge *"Job-Rated"* truck will enable you to carry bigger payloads? See him soon.

DODGE "Job-Rated" TRUCKS

MATTISON 303 *Stroke Sander*

Provides:

INCREASED PRODUCTION— BETTER QUALITY

for

UNITED STATES PLYWOOD CORPORATION

Seattle, Washington

What the Mattison 303 Automatic Stroke Sander is doing for United States Plywood Corporation in their Seattle soft wood plywood plant is an example of what this machine is doing for a good many others.

On the 303 the hydraulic system for the operation of the shoe is simple yet positive in action providing smooth operation of sanding shoe the entire length of stroke.

For further information on the 303 let us send you our new free circular.

UNITED STATES PLYWOOD CORPORATION

Manufacturers and Distributors of Wildwood Plywood and Allied Products

Seattle Office - 4045 Thirteenth Avenue West - Seattle 99, Washington

December 3, 1951

Mattison Machine Works
Rockford, Illinois

Attention: Mr. W. C. Hagstrom

Gentlemen:

Your Mattison No. 303 Hydraulic Automatic Stroke Sander has been operating in our Seattle Plant for six weeks, sanding principally flush doors and hardwood faced plywood.

We find that we obtain not only increased production, but much better quality of sanding. Our operators are enthused about the machine because of its ease and simplicity of operation.

Among other outstanding features of this machine is the exacting control of the automatic stroke. We will be happy to recommend your machine to anyone you wish to refer to us.

Yours very truly,

UNITED STATES PLYWOOD CORPORATION

J. B. McFall
Engineer

JBMc/v

MATTISON MACHINE WORKS

ROCKFORD · ILLINOIS

BEST for the first run!
BEST in the long run!

Genuine
TIMKEN
Detroit
AXLE PARTS

The Accepted D A CO Standard

TRADE MARK REGISTERED

Look for this sign

You bought trucks equipped with Timken-Detroit Axles for a reason! Because they were equipped with the best, most dependable truck axles made! Don't sell yourself short when it comes to buying axle replacement parts. Install *only* genuine Timken-Detroit Original Equipment Parts whenever replacement parts are needed.

The more important, more widely used of these parts are packaged in handy kits to help you do an easier, longer lasting, more complete replacement job. These kits also protect the parts against moisture and rough handling—to make sure the new parts reach you in the same condition in which they left the factory. What's more, Timken-Detroit Parts Kits contain *all* the essential related parts to do a "factory-type" replacement job.

Always insist on genuine Timken-Detroit Axle Replacement Parts when new parts are needed. You'll find them wherever the Timken-Detroit Axle Parts sign is displayed.

The Timken-Detroit Axle Company • Detroit 32, Michigan

MAIL THIS COUPON FOR THE FULL FACTS ON TIMKEN-DETROIT AXLE PARTS KITS

→

The Timken-Detroit Axle Company
100 N. Clark Street, Detroit 32, Michigan

Gentlemen: Please send me complete information on Timken-Detroit Axle Parts Kits.

NAME_____

ADDRESS_____

CITY_____ STATE_____

I operate_____ (Number of trucks)

Improve Truck Performance!

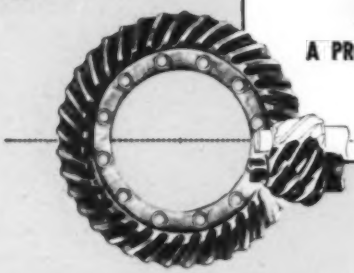
Go modern with

Here's One More Reason Why!

TIMKEN Detroit AXLES

A PRODUCT OF THE TIMKEN-DETROIT AXLE COMPANY

DETROIT 32, MICHIGAN



The Accepted D A CO Standard

TRADE MARK REGISTERED

HYPOID HEAVY-DUTY GEARING

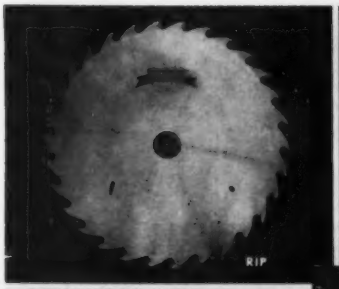
These are busy times—*and profitable times*—if your truck can *produce* whenever it's needed—wherever it's needed! And the truck men who are making the most of today's profitable business—*and their equipment*—use trucks equipped with Hypoid-geared Timken-Detroit Axles.

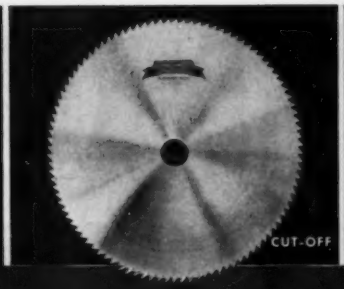
This modern axle gearing boosts truck performance—provides extra dependability for rapid, long-distance hauls. The offset Hypoid pinion is bigger and stronger. Bearings are bigger. More teeth are in contact, reducing loading per unit of contact area. Torque-transmitting capacity is increased. Slower gear ratios are practical without loss of strength. What's more, time-proved Hypoid gearing adds miles to the life of your truck, at lower maintenance cost.

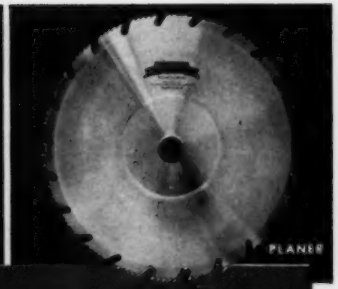
Whether you build, buy or sell trucks, make sure they're equipped with Timken-Detroit Axles and Brakes! You'll find Hypoid gearing an important advantage.

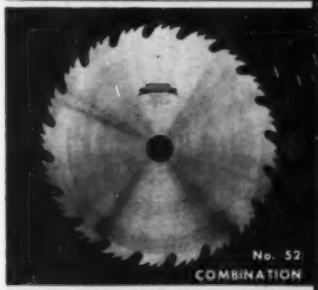
WORLD'S LARGEST MANUFACTURER OF AXLES FOR TRUCKS, BUSES AND TRAILERS

PLANTS AT: Detroit and Jackson, Mich. • Oshkosh, Wis. • Utica, N. Y. • Ashtabula, Kenton and Newark, Ohio • New Castle, Pa.



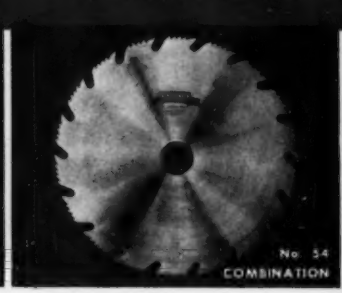






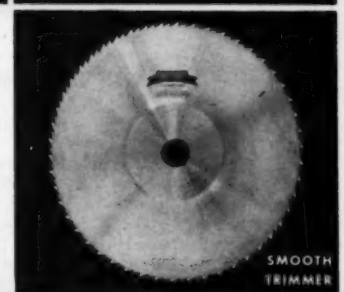
For any Type of Cutting
on any Type of Machine...

"SIMONDS SAWS ARE THE BEST"



Simonds Saws are 100% Quality Controlled . . . from the tough, edge-holding electric furnace steel poured in Simonds own modern mills . . . to the special methods of heat-treating, grinding, tensioning and fitting by Simonds experienced sawmakers working under ideal conditions in the world's most up-to-date saw-manufacturing plant.

This "start-to-finish" control is your guarantee that every Simonds "Red Center" Saw you buy will cut smooth, fast and straight . . . will stand up to fast feeds . . . and will hold its cutting edge in the hardest woods. Your Simonds dealer is stocked to serve you . . . get in touch with him *today*.

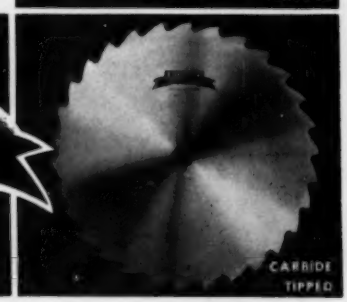


Serving Industry Since 1832

SIMONDS
SAW AND STEEL CO.

FITCHBURG, MASS.

Factory Branches in Boston, Chicago, San Francisco and Portland, Ore. Canadian Factory in Montreal, Que.



WIRE ROPE

This is the best rope we've ever made for chokers and arch lines

JUST MENTION wire rope and most everyone thinks of Roebling. For one thing, Roebling made the first wire rope in America. But what counts more, we've always set the pace in developing better wire and better rope for the needs of every branch of industry.

Today's Roebling Preformed "Blue Center" Steel Wire Rope is the loggers' best bet for all-around efficiency and long life. It helps you get continuous log production, and stands up under rough going. It saves you time and cuts costs.

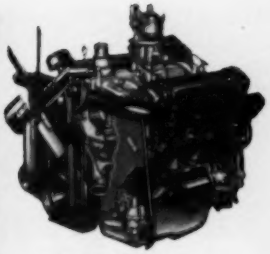
There's a Roebling wire rope of the right specification for top service on any job. Call on your Roebling Field Man for his recommendations. John A. Roebling's Sons Company, San Francisco – Los Angeles – Seattle.

ROEBLING

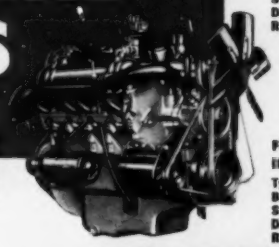
ATLANTA, 934 AVON AVE. • BOSTON, 51 SLEEPER ST. • CHICAGO, 5525 W. ROOSEVELT RD. • CINCINNATI, 3253 FREDONIA AVE. • CLEVELAND, 701 ST. CLAIR AVE., N. E. • DENVER, 4801 JACKSON ST. • DETROIT, 915 FISHER BLDG. • HOUSTON, 6216 NAVIGATION BLVD. • LOS ANGELES, 5340 E. HARBOR ST. • NEW YORK, 19 RECTOR ST. • ODESSA, TEXAS, 1920 E. 2ND ST. • PHILADELPHIA, 230 VINE ST. • SAN FRANCISCO, 1740 17TH ST. • SEATTLE, 900 1ST AVE. S. • TULSA, 321 N. CHEYENNE ST. • EXPORT SALES OFFICE, TRENTON 2, N. J.

FORD ANNOUNCES THREE NEW *Heavy Duty* INDUSTRIAL ENGINES

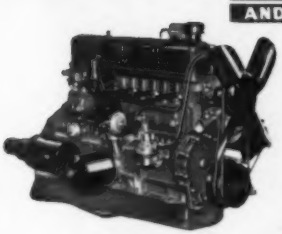
Ford
INDUSTRIAL ENGINES
AND POWER UNITS



FORD "317"
INDUSTRIAL ENGINE
Type—V-8, 90° Overhead Valve.
Bore—3.8 inches.
Stroke—3.5 inches.
Displacement—317 cu. in.
Rating (dyn.)—140 b.h.p. @ 2800 rpm.



FORD "279"
INDUSTRIAL ENGINE
Type—V-8, 90° Overhead Valve.
Bore—3.56 inches.
Stroke—3.5 inches.
Displacement—279 cu. in.
Rating (dyn.)—125 b.h.p. @ 2800 rpm.



FORD "215"
INDUSTRIAL ENGINE
Type—6 cylinder Overhead Valve.
Bore—3.56 inches.
Stroke—3.6 inches.
Displacement—215 cu. in.
Rating (dyn.)—93 b.h.p. @ 2800 rpm.

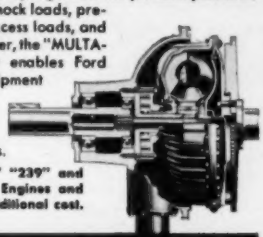
Designed and Built for INDUSTRIAL APPLICATIONS

● Now, manufacturers and users of industrial powered equipment have a choice of six great Ford engines . . . all especially designed for industrial applications and incorporating notable advancements for still greater performance and operating economy. With the three new series pictured here and three series in the present line, there is a choice of six engines ranging from 120 to 317 cu. in. displacement.

Our experienced Sales Engineers are at your service in developing engineering recommendations for the most efficient use of Ford Industrial Power in your application.

AND A NEW MULTA-TORQUE CONVERTER

The new Ford "MULTA-TORQUE" Converter offers all the advantages of fluid coupling PLUS torque multiplication. Designed to absorb shock loads, prevent stalling under excess loads, and start bigger loads faster, the "MULTA-TORQUE" Converter enables Ford Engines to power equipment normally requiring much larger, more costly engines in the same applications.



Available with "215," "239" and "254" Ford Industrial Engines and Power Units at low additional cost.

YOUR JOB IS WELL-POWERED WHEN IT'S FORD-POWERED

All six engines in the 1952 Ford Line are available as assemblies or complete Power Units, closed or open type.

Ford Industrial Engines and Power Units are RIGHT 3 WAYS for your job!

1. **RIGHT POWER** for your job—six great engines available in both Power Units and Engine Assemblies.
2. **RIGHT FEATURES**—all the latest advancements of Ford's famed progressive engineering.
3. **RIGHT SERVICE**—Ford Industrial Engine Service is Nationwide. Parts obtainable quickly from your nearest Ford Dealer.

MAIL THIS COUPON TODAY!

INDUSTRIAL ENGINE DEPARTMENT
FORD MOTOR COMPANY
15050 Woodward Ave., Highland Park 3, Mich.

We are interested in Industrial Power for:

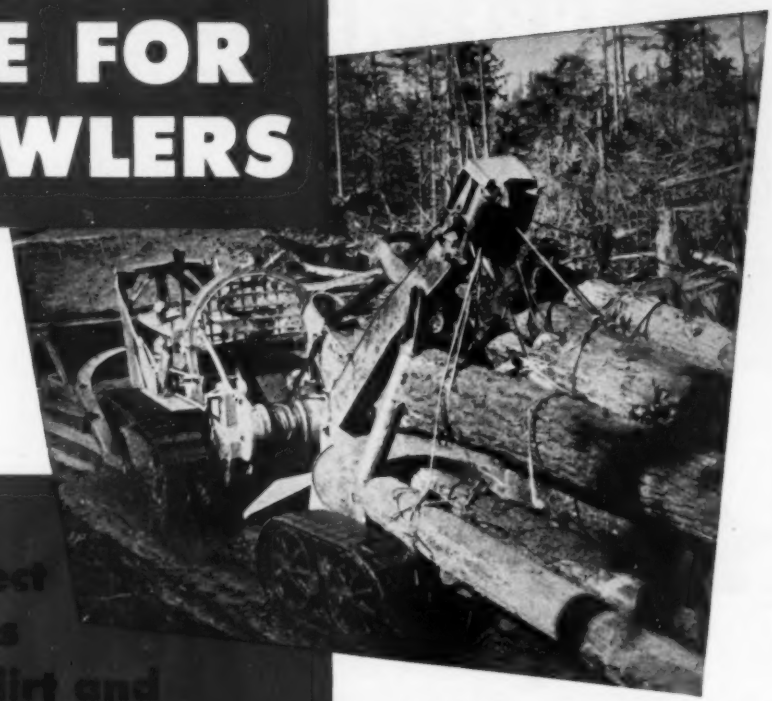
_____
(state your application)

Send us 1952 literature on Ford Industrial Engines checked below:

☐ "120" 4-Cyl. ☐ "215" 6-Cyl. ☐ "239" V-8
☐ "254" 6-Cyl. ☐ "279" V-8 ☐ "317" V-8
☐ "MULTA-TORQUE" Converter

FIRM NAME _____
(Please Print)
STREET _____
CITY _____ ZONE ____ STATE _____ G

LONGER LIFE FOR CRAWLERS



...when you protect bearings against dirt and moisture with TEXACO TRACK ROLL LUBRICANT

Your tractors may be working in mud today, in sand tomorrow. It makes no difference when crawler track mechanisms are lubricated with *Texaco Track Roll Lubricant*.

Here's a lubricant that *really* protects. *Texaco Track Roll Lubricant* acts to seal out dirt and moisture. It guards against wear and rust . . . outlasts ordinary lubricant. Thus, rollers last longer, crawler action is smoother, your maintenance costs are lower.

For chassis bearings, use *Texaco Marfak*. It's tough, long lasting . . . won't squeeze or pound out even in roughest service. Assures longer parts life.

For wheel bearings, use *Texaco Marfak Heavy Duty*. It seals out dirt and moisture, seals itself in — assuring safer braking, longer bearing life. No seasonal change required.

For engines, use *Texaco Ursa Oil X***—the fully detergent-dispersive oil that cleans as it lubricates . . . assures less fuel consumption, lower maintenance costs.

Let a Texaco Lubrication Engineer help you get more work from every piece of your equipment. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

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The
LUMBERMAN'S

FOREST INDUSTRIES NEWS

The OPA has decontrolled the price of stumps. The OPA has discovered that there is great variation in stumps, with respect to quality, yield, accessibility, etc., and therefore found it impractical to maintain price controls.

Olympia Harbor Lumber Company, Olympia, Wash. has purchased the assets of the Western Timber Products, Eugene, Ore., and will operate there as the Eugene Division of Olympia Harbor Lumber Co., with R. M. (Ron) Goodwin as general manager. Western Timber Products operated a 45M daily capacity sawmill.

The C. D. Johnson Lumber Corp., Toledo, Ore., acquired through stock purchase, by the George-Pacific Plywood Corp., will continue to operate under its original name. Robt. F. Johnson continues as president.

Oregon Fibre Products, Inc., Pilot Rock, Ore., in a statement filed with the Securities and Exchange Commission sets forth that its program calls for the sale of $2,500,000 sinking fund debentures, 5000 shares of its $100 par preferred stock and 50,000 shares of its $1 par common. It states no underwriting is involved.

According to figures released by the Southern Pine Association, which helps sponsor the tree farm program in the South, more than 930,000 acres of additional lands in the 10 Southern states were certified during the year. However, cancellations reduced the net gain to slightly more than 400,000. H. C. Berckes, secretary-manager of SPA, pointed out that the exceptionally large acreage cancelled was due to the purchase of approximately 500,000 acres of certified Tree Farms. Most of the new owners, pulp and paper companies, unquestionably will have their lands recertified at a later date, Mr. Berckes indicated.

Donald S. DeWitt, president of the Holt Hardwood Company, Oconto, Wisconsin, has been elected president of the Maple Flooring Manufacturers Association. He succeeds W. C. Abendroth who served during the past five years. Also elected at the meeting were W. W. Gamble, Jr., White Lake, Wis., vice-president; S. A. Wells, Menominee, Michigan, treasurer; L. M. Clady, Chicago, secretary-manager.

Arthur Temple, Jr., since 1948 vice-president and general manager of the Southern Pine Lumber Co.'s Diboll, Texas, manufacturing plant, has been elected president of the company succeeding his father, the late Arthur Temple, Sr. He also was named executive vice-president of the Temple Lumber Co., with sawmill located at Pineland, Texas. Temple Webber, vice-president and sales manager of Southern Pine Lumber Co., and sales manager of the Temple Lumber Co., was elected president of Temple Lumber Co. and executive vice-president of Southern Pine Lumber Company. Sales offices for the two companies have been maintained in Texarkana, Tex.

B. F. Cheatham has been elected president of Moore-Reid & Company, and will serve as general manager of the Mississippi Valley operations of Georgia-Pacific Plywood Company which includes Moore-Reid & Company and Terry Road Lumber Yard in Jackson, Mississippi, as well as the lumbering operation of Georgia-Pacific Plywood Company at Dumas, Arkansas.

Lester W. Foley, president of Foley Lumber & Export Corp., Jacksonville, Fla., has retired from the active management of the affairs of the firm.

T. M. Millett, of Millett Hardwood Lumber Company, Louisville, Ky., was re-elected president of the Appalachian Hardwood Manufacturers, Inc., at the organization's annual meeting in Cincinnati. J. P. Harner, of J. P. Harner Lumber Co., Kenova, W. Va., was re-elected vice-president; and Secretary-Treasurer S. H. Clendening returned to that office.

Forest Industries News

Eberly Thompson, vice president of M & M Wood Working Co., Portland, Ore., has been named chairman of National Association of Manufacturers conservation of natural resources committee, according to announcement by F. N. Youngman, regional vice president of NAM and vice president of Crown Zellerbach Corp. Thompson replaces David Graham, formerly financial vice president of Weyerhaeuser Timber Co., Tacoma, Wash. Other northwest members of the committee include Anthony J. Dwyer, president of Dwyer Lumber Co., Portland; and L. T. Murray, president of West Fork Lumber Co., Tacoma.

John R. Calkins has been named Lake States manager of American Forest Products Industries, with headquarters in the Socony-Vacuum Building, 59 East Van Buren St., Chicago 5, Illinois. He succeeds John M. "Jack" Rottier. Mr. Calkins, is a graduate of Michigan State Normal College. He also attended Ohio State University.

Columbia Basin Loggers have elected the following officers to serve for the current year: president, L. H. Mills, Trask Lumber Co.; vice president M. L. Sullivan, Columbia River Paper Mills; secretary H. H. Wiecks, DYW Logging Co.; treasurer Harry C. Patton, Hammond Lumber Co.; assistant secretary-treasurer E. H. Crosby, Columbia Basin Loggers.

A. G. "Buff" Natwick, assistant resident manager, Crown Zellerbach Corp., Camas, Wash., has been named to National Production Authority, heading the raw materials branch of Pulp, Paper and Paperboard Division.

Dean Paul M. Dunn, school of forestry, Oregon State College, Corvallis, Ore., has been elected president of the Council of Forest School Executives.

Booth-Kelly Lumber Co., Springfield, Ore., granted $2500 to Oregon State College school of forestry, Corvallis, Ore., to help finance a study of power saws and their relation to fire hazards in the forest.

United States Plywood Corporation, has opened a sales and distribution unit at Omaha, Nebraska, the thirty-fifth such installation for the company, which will be managed by L. T. Peeler, who has been with U. S. Plywood Corp. for 13 years.

O. J. McDonald, formerly vice-president and general manager of Brooks-Scanlon, Inc., operations in Florida prior to sales by that corporation of its 444,000 acres to Proctor & Gamble (Cincinnati), has acquired the company sawmill at Tallahassee, Fla., and is operating it for his own account. According to The Lumberman's Handbook & Directory of the Southern Forest Industries the mill is rated at 60M feet per day capacity.

Victor H. Clausen has been appointed to the Research and Technical Division of the California Redwood Association and will make his headquarters at the Association's Eureka, Calif. office.

The Orville R. Miller Memorial research fund has recently been increased by a gift of $1,000. The grant was made by Mrs. Kathryn Miller, widow of the late Orville R. Miller, prominent Oregon lumberman. The research fund is used to finance studies in the field of wood utilization at Oregon State College. At present four students are aided in their graduate programs—two in wood chemistry and two in forest products.

United States Plywood Corporation sold more than one-half million square feet of its Novoply, to Levitt and Sons, builders. The Novoply paneling will be used as movable wall partitions in 5,000 homes of the new 16,000-home Levittown in Pennsylvania.

The Medford Corp., Medford, Ore., has started a remodeling and modernization project on its big sawmill at Medford, Ore. The company plans to maintain at least partial production while the improvements are being made.

LORAIN MOTO-LOG LOADER *MOBILITY* SERVES 20 LANDING POINTS A DAY

for Deer Park Pine Industries, Inc.

This 25-ton Lorain Moto-Log Loader, Model MC504-W sets a fast pace on this selective logging show of Deer Park Pine Industry, Deer Park, Washington. It uses its fast, rubber-tire mobility to average 100,000 bd. ft. of Ponderosa pine logs a day — loading from as many as *20 scattered points* along the haul road — keeping trucks busy hauling out. The whole operation was planned around Lorain Moto-Log Loader mobility that saves time, equipment and lowers costs. Because the Lorain could move *fast*, up and down the road, skidding distances were shortened. Tractors placed logs *at their convenience* along the road. The Lorain kept them moving to 9 trucks. It's paid off! Proof? Deer Park has added another Lorain that will *further lower* their operating costs. Why don't you check on what a Lorain can do for you. Capacities up to 45 tons on rubber tires or crawlers. There is a Lorain Distributor near you.

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THEW LORAIN CRAWLER OR RUBBER-TIRE LOG LOADERS

FOR YOUR LOG LOADING NEEDS SEE YOUR THEW-LORAIN DISTRIBUTOR

Forest Industries News

The Aborigine Lumber Co., Longview, Wash., is opening a woods and manufacturing operation at Fort Bragg, Calif.

M. J. Huetter, superintendent of the Northwest Timber Co., Couer d'Alene, Idaho, has been re-elected president of the Washington-Idaho-Montana Dry Kiln Club. Harold White of the St. Maries Lbr. Co., St. Maries, Ida., was named vice-president, and Gerald Bennett, Diamond Match Co., Newport, Wash. was re-elected secretary-treasurer.

Cascades Plywood Corp. Lebanon, Ore., has received special recognition in form of "Certificate of Cooperation" from E.C.A. for cooperation and assistance extended to individuals on technical assistance missions from Western European countries.

David G. Stenstrom, prominent in logging and pulp and paper operations for many years, recently as west coast representative of Celanese Corp. of America at Vancouver, B.C., succumbed to an operation following an illness of several weeks in Victoria January 31.

Seaboard Lumber Sales, Ltd., Vancouver, B.C., one of the world's great lumber export organizations, has re-opened its London office with Robert H. Edgett. Seaboard established an office in London originally in 1936. When Timber Control took over during the war years and continued to regulate the trade during the postwar period the office was closed. The re-opening is a sequel to the return of the timber business in the United Kingdom to private trading.

Until receiving his new appointment, Bob Edgett was manager of the United Kingdom department for Seaboard.

John H. Beach, formerly associated with Rayonier Incorporated and Bloedel Donovan Lumber Mills, has joined Harbor Plywood Corporation, Aberdeen, Wash., in the capacity of manager of the Lewis River and National Timber Divisions. R. L. Goodrich, who has been in charge of log procurement for the Aberdeen mill will now be manager of the Log Supply Division covering all Harbor Plywood operations.

Alaska Pine Co., Universal Lumber & Box Co. and Western Forest Industries, comprising the lumber division of Alaska Pine & Cellulose Ltd., one of British Columbia's largest organizations in the forest industry, have joined Seaboard Lumber Sales Co., which will be their exclusive waterborne export sales and shipping agents. Seaboard now represents 40 sawmills with an annual production of more than 1.1 billion board feet. It is one of the largest lumber exporting companies in the world.

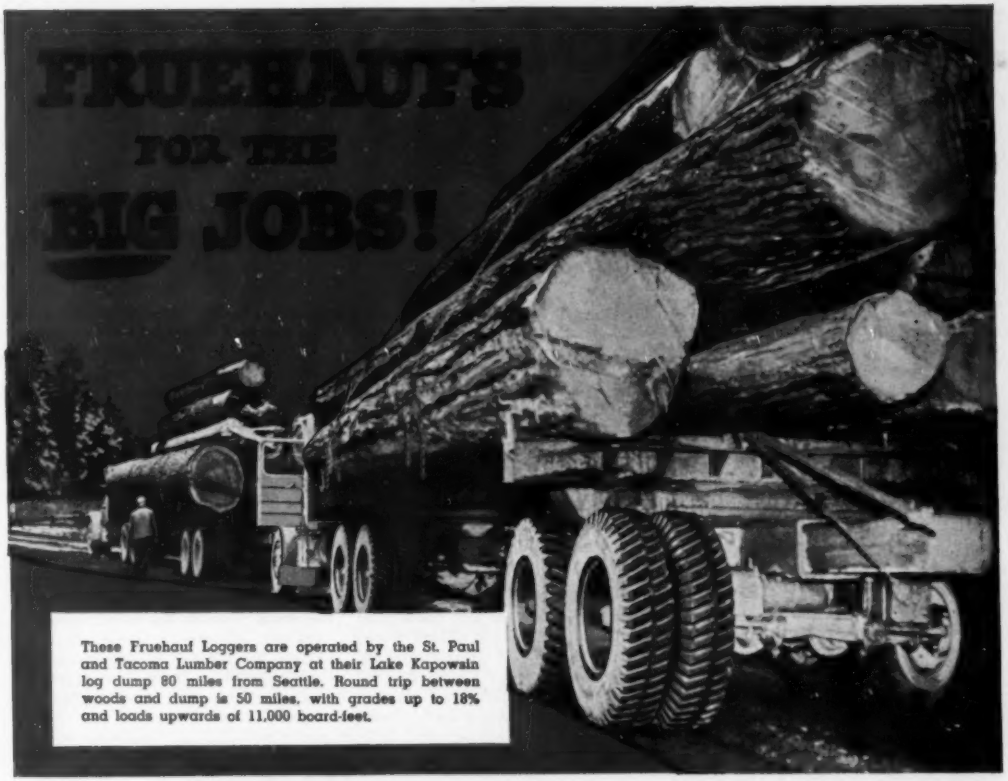
Irvin H. Luiten has been appointed Oregon field representative of Weyerhaeuser Timber company's department of public information, with headquarters in Portland, Walter J. DeLong, public information director, has announced.

Andy Landrum, has relinquished active direction of the sales activities of the St. Paul & Tacoma Lumber Co., Tacoma, Wash., and has been succeeded by W. R. Garnett. Vincent Besinque is assistant manager for Plywood, Mrs. Mabel Jones, assistant manager for lumber, and Messrs. Corydon Wagner III and Harry Nyland complete the staff at the general sales office at Tacoma.

Charles L. Wilson has been made general manager and sales manager of the C. D. Johnson Lumber Corp's newly organized truss division. Headquarters will be in the American Bank Building, Portland, Ore.

The annual meeting of the National Association of Commission Lumber Salesmen will be held at the Chase Hotel, St. Louis, Mo., April 17-18-19. The second day's meeting is open to all branches of the industry. The theme of the program will be "Wood vs Substitutes."

W. D. Hagenstein, chief forester Forest Conservation Committee of Pacific Northwest Forest Industries appeared before House and Senate committees at Washington, D. C. in late February urging an annual appropriation of $30,000,000 per year for the next five years for timber access roads in government owned timber.



These Fruehauf Loggers are operated by the St. Paul and Tacoma Lumber Company at their Lake Kapowsin log dump 80 miles from Seattle. Round trip between woods and dump is 50 miles, with grades up to 18% and loads upwards of 11,000 board-feet.

WHEREVER THE GOING IS ROUGHEST, you'll find Fruehauf Loggers doing the big jobs — without breakdown and without a lot of attention and expense.

Fruehauf Loggers are available in 4 standard capacities, up to 60,000 pounds, all with exceptional road clearance. Massive bunks are of box steel construction, angle-reinforced, with bunk locks for loading. Fruehaufs are *extra rugged* and *always dependable* because they're built with the finest materials — tough, molybdenum steel I-Beam axles — rubber-cushioned, straddle-mounted leaf springs — and a high-tensile all-steel frame. Special features are built in as desired.

For the Fruehauf Logger fitted *exactly* to your needs, see your nearest Fruehauf Branch today or write for the free, illustrated Logger Catalog.

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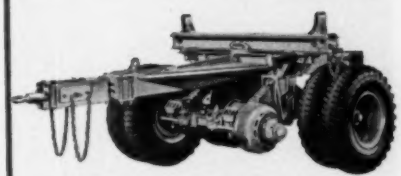


The TL-55 Heavy Duty Logger shown here has 8-foot bunks, high-tensile-drum vacuum or air brakes, and rubber-bushed trunnion mountings and spring ends.

FRUEHAUF Trailers

WORLD'S LARGEST BUILDERS OF TRUCK-TRAILERS

PLYWOOD — VENEER HARDBOARD

THIS GREAT TRILOGY OF THE FOREST INDUSTRY SETS NEW HIGH MARKS IN NUMBER OF PLANTS AND IN VOLUME OF PRODUCTION WITH PROMISE OF CONTINUED SOUND DEVELOPMENT

Douglas fir plywood production in Washington, Oregon and California last year reached an all time high of slightly over 2,800,000,000 square feet, 3-8 inch basis, and production in 1952 is expected to pass the 3,000,000,000 square foot mark. British Columbia plants produced some 350,000,000 square feet of plywood in 1951 and will likely turn out close to 500,000,000 feet in 1952.

In spite of the steadily increasing number of plywood plants, there now being some 78 in Washington, Oregon and California, and mounting production, the trend on the part of manufacturers is to make a better product.

In the three Pacific Coast States from November 1950 up to now, 42 planned expansions valued at $29,000,000 were sought for federal certification, according to a recent statement by Charles L. Tebbe, United States Forest Service, who went on to say that these new facilities would raise total production to 3.2 million square feet by the end of 1952. "This represents," said Tebbe, "an increase of 50 per cent over that produced in 1949. This expansion will require an estimated 550 million feet of logs annually."

On the matter of timber supply, the industry as a whole apparently has little to worry about. Some individual plants here and there may and likely will run out of timber but a survey made last summer by the Douglas Fir Plywood Association indicated that considering all sources of timber supply, public and private, the plywood industry which consumes about 1,500,000,000 feet of logs annually, will not have trouble in obtaining sufficient raw material to keep the mills operating for many years to come.

Commenting on the timber supply situation Mr. Tebbe said:

"Plywood manufacture results in very close utilization of the log, and surprisingly enough affords a high use for many logs not merchantable for lumber. Specifications for peeler logs have been lowered greatly. Plywood is actually an outlet for part of what used to be woods waste—chunks, white pocket logs, etc. Two of the Pacific Northwest expansions are planned to be based exclusively on what hitherto have been logging leftovers. A number of others will

Plyron, plywood industry's new combination panel, has attracted keen interest in building trades, shows promise of developing into major item in list of industry's allied products. Nine mills are now making this product.

Nearly fifty straight green veneer mills will be in operation in 1952 supplying plywood plants with about 15 percent of the veneer needed by the industry. This is a view at the new green veneer plant of the Anderson Veneer Co., Div., of Plywood Inc., Anderson, Calif. An article on this modern plant appears in this issue of The Lumberman.

be based partly on such material.

"Wood converted into plywood covers more square feet than the same volume used as lumber, so it makes what we have go farther. To a considerable extent plywood is a substitute for lumber and it is reasonable to expect that from a timber drain standpoint, some new plywood production will be offset in the long run, by reduced lumber cut. It is reasonable to expect too, that some of this decrease in lumber production will be occasioned by closing of some sawmills which find they cannot compete for shrinking timber supplies with relatively wide margin plywood operations."

NEW PLYWOOD PRODUCTS

One of the major new developments in the Plywood Industry last year was the advent of Plyron, newest product of the West Coast plywood industry. Plyron is a combination of hardboard bonded to plywood inner construction. Although Plyron was first manufactured for interior use and concrete forms, several producers are already making it for outdoor use and others have announced that they will follow suit.

Plyron is now being made by nine plywood manufacturers. They are:

Aberdeen Plywood Corp., Aberdeen, Wash.; Associated Plywood Mills, Inc., Eugene, Ore.; Crescent Plywood Co., Crescent City, Calif.; Industrial Plywood Corp., San Francisco, Calif.; Kalpine Plywood Co., Klamath Falls, Ore.; Multnomah Plywood Corp., Portland, Ore.; St. Paul & Tacoma Lumber Co., Tacoma, Wash.; Simpson Logging Co., Seattle, Wash., and Western Veneer Co., Eugene, Ore.

A number of plants are making overlays of various types. This phase of the industry promises to expand materially. In making Plyron or any type of overlay the pressure for high grade face veneer is lessened to some extent.

PLANT IMPROVEMENTS

Farsighted plywood manufacturers are keenly aware of changing economic conditions which are commencing to force major changes in veneer and plywood manufacturing methods. For many years, most plywood manufacturers considered it unnecessary to make many major changes in plant or equipment. There have of course been exceptions. Manufacturers now are coming to realize that one means of reducing costs and offsetting higher log costs, labor costs, equipment costs, increased taxation, etc., is through more efficient mechanical methods. That this leaven is already actively at work in the industry, is evidenced by the number of articles in this issue relating to specific plant improvements and installations of new and more modern equipment and techniques.

Typical of this trend is the fact that one well managed and well equipped Puget Sound plywood plant is right now installing a new veneer dryer and has just put into operation two of the latest type Yates sanders.

Numerous plants in the West and South have installed facilities for handling tank car shipments of glues. The saving of a few cents per pound by buying adhesives in tank car quantities in the aggregate and over the years, runs into sizeable sums.

Several plants have installed chipping equipment as a means of augmenting revenue.

This matter of plant improvement and better methods is touched upon by Charles E. Devlin, vice-president in charge of sales, Simpson Logging Company, in his article on "Hardboard Developments in the Pacific Northwest" written for this Marsh Plywood, Veneer and Hardboard issue of the Lumberman.

Thomas B. Malarkey, president of the M & M Woodworking Co., in commenting recently on the need for greater efficiency in plywood manufacture said that the cooperative plants represent from fifteen to twenty percent of the plywood industry production and that "Man hour output in these cooperatives is estimated at twenty percent greater than in conventionally owned plants . . . But now that the industry is crowded we hope and believe our employees realize that we must draw abreast of these co-ops in the field of labor cost, if all of us are to endure and prosper." Mr. Malarkey said, "There will always be a place in the industry for the strong but little room for the weak."

STRAIGHT VENEER PLANTS

Another interesting development in the plywood industry and one which has an important relationship to the life of the business is that of the growth in number of straight green veneer plants. Up until rather recently just about all the veneer used in plywood production was produced by plywood manufacturers in their own plywood plants. Now, it is estimated that about 15 percent of the veneer used in plywood plants is produced in independent green veneer plants.

Last year some thirty-four green veneer plants were operating in the western states with several more in British Columbia. The green veneer plants which operated in Washington, Oregon and California last year were:

Green Veneer Plants Operating

1. Aberdeen Plywood Corporation, Tillamook, Oregon
2. Albany Veneer Company, Albany, Oregon
3. Anderson Veneer Company, Anderson, California

(Concluded on Page 188)

HARDBOARD DEVELOPMENTS IN THE PACIFIC NORTHWEST

A THOUGHTFUL ANALYSIS OF A RAPIDLY DEVELOPING NEW FOREST INDUSTRY WITH A FRANK DISCUSSION OF THE SALES, MERCHANDISING AND OTHER PROBLEMS INVOLVED.

by

CHARLES E. DEVLIN

Vice-president in Charge of Sales, Simpson Logging Company, Seattle, Washington

The production of hardboard in the Pacific Northwest, for a number of years, has been the subject of increasing interest and much research has gone on in the past seven or eight years looking to the development of a product which would fit the resources in this area. This development is now at the stage where large-scale production is in the offing and it is, therefore, a matter of general interest throughout the fir and redwood areas and, to a somewhat limited extent, all over the United States.

There are a number of interesting problems in connection with hardboard, not only in the matter of production but even more critically in sales and merchandising.

It is easy to understand the basic interest in hardboard. It stems largely from the desire of plywood and sawmill operators in particular to make all possible use of the salvage material available to them. This pressure becomes increasingly more important as the raw material itself becomes more expensive.

Furthermore, there is the real desire on the part of mill owners looking to continued existence to build their plant facilities in such a way that they can demonstrate to public forest officials that they are in business for the long pull; that they are willing to invest money to process salvage material more completely; and that they thus can assure greater stability in the communities adjacent to or contiguous to these public forests.

As of today, the thinking of such planners must logically move toward ground wood products or pulped products; and the major products that suggest themselves are pulp or paper, insulating board or insulating board products, and hardboard. Other products, of course, are possibilities and much research and product development is under way even now that will open up new horizons for wood processors, such as the greater utilization of bark.

The field for many operators, particularly those of medium size and somewhat limited financial resources, is narrowed immediately because of the capital investment required for the large-scale pulp mill and more particularly for any type of paper operation. The capital investment required for these units is typically beyond the reach of the ordinary, medium-sized sawmill operation or plywood operation.

CHARLES E. DEVLIN

Insulating board, at the moment, does not hold much favor since there is apparently sufficient capacity in the industry to take care of demand for some years to come. The investment in plant here is typically about the same as for a hardboard plant, but production problems, quality control problems, and particularly sales problems are at the moment of such magnitude as to discourage anyone who contemplates them. One hopeful note in this industry is the increasing demand for acoustical tile, but even here great inroads are being made in fiber tile demand by the so-called incombustible tiles made of rock wool, asbestos, or glass wool.

Thus by a process of elimination, the operator looking for new avenues of wood utilization (in early 1952 at least) would ultimately come to a consideration of hardboard. The capital requirements for production of hardboard are not overwhelming, particularly as compared with a pulp or paper mill. And even more significantly, up until now at least the demand for the product has been substantially ahead of the capacity to produce. The venture, therefore, seems to give some real promise as a profit-maker over the long pull.

Parenthetically recent estimates of the cost of a conventional wet process hardboard vary from $1,750,000 to $2,500,000, with the completed cost of one such operation slightly in excess of $2,250,000. Such a mill would produce about 75 tons per day, or

Charles E. Devlin, author of this article on "Hardboard Developments in the Pacific Northwest" was for years advertising and trade promotion manager of the Douglas Fir Plywood Association, subsequently becoming its managing director. He left the association to take charge of sales for the Simpson Logging Company, whose plants are at Shelton, Wash., long a manufacturer of Douglas fir plywood. Later the company built an insulating board mill. The company has just made arrangements to handle the hardboard sales of the new Oregon Lumber Company's hardboard plant at Dee, Oregon. . . . Editor.

about 50,000,000 sq. ft. (⅛" basis) annually on a five-day week schedule. Costs per ton of capacity of new "dry process" plant ("dry process" explained under HARDBOARD PROCESSES) may be less.

An interim and perhaps temporary solution to greater salvage of sawmill and veneer waste would be the installation of a chipping plant. In this way chips could be produced and sold on long-time contracts to pulp mills. The ultimate return here is modest but is relatively steady and secure. It offers an out for the operator who is not ready to make more substantial plant investments, which would bring on the marketing headaches of the specialty products that in themselves offer greater monetary return.

PER CAPITA CONSUMPTION FIGURES

Studies have been made which show that the per capita consumption of hardboard in Sweden is seven times that of the consumption in the United States.

In 1950 it was estimated that world production of hardboard totaled about 950,000 tons or about 2¼ billion sq. ft. if converted to a ⅛" equivalent basis. Of this the United States produced 39%, Sweden 20%, Canada about 16%, Germany about 6%, Italy about 3%, Norway, Africa, Finland, and the United Kingdom each about 2%, and 1% or less from 10 or 11 other countries. Since that date there have been substantial increases in capacity brought in or under construction which would add at least another 200,000 tons to world capacity with Sweden adding 20-25% to its capacity and the United States adding as much as 30% with further substantial additions still to come. Australia also has become an important hardboard producer.

Parenthetically for rough figuring in converting hardboard capacity figures to square feet, 750 lbs. per 1,000 sq. ft., ⅛" basis is an approximate figure to use, recognizing that density figures may vary from product to product, or plant to plant.

For the year 1951, consumption of insulating board in domestic U.S.A., based on figures supplied by the Insulating Board Institute, would indicate that approximately 12 sq. ft. of insulating board per capita has been sold. (This may be slightly lower than subsequent figures given for plywood and hardboard since certain categories of insulating board are not reported to the Institute, such as export sales and sales of roof insulation). The consumption of Douglas fir plywood approximated 17½ sq. ft. per capita, and the consumption of hardboard approximated 8 sq. ft. per capita. If all other types of plywood manufactured in the United States were added to the Douglas fir plywood figure, it is likely that the per capita consumption would be increased to 20 sq. ft. or perhaps 20½ sq. ft.

The demand for hardboard during 1951 was generally very strong, although it sluffed off slightly at the end of the year because of slackening demand for all building products and also because of the pressure of the drastic declines in the price of Douglas fir plywood. Over-production of hardboard does not, as yet, seem to be a problem and market factors seem to be the important element in the drop-off in demand toward the end of 1951 and into 1952.

Thus, from the standpoint of demand it is obvious that hardboard production would be attractive to many plywood and sawmill operators.

From the standpoint of production it also has some attractive features which have become evident as a result of intensified research during the past five or six years.

HARDBOARD PROCESSES

This leads to a discussion of some of the terminology currently in use in the hardboard industry, particularly the terms "wet process," "dry process," and "semi-dry process." The confusion in terminology needs correcting and while it is not the intention of this article to suggest an arbitrary definition, perhaps the following will be helpful.

Up until the present time most hardboards have been produced by the so-called "wet process." This means that production follows one of several methods of pulp preparation, the most famous of which is that used by the Masonite Corporation in which fibers are exploded by steam in a gun. The other principal "wet process," as perfected by the Scandinavians, uses mechanical defibration equipment, generally the Asplund defibrator, in the pulping process.

In either case the board is pressed wet and the heaviest concentrations of moisture are taken out in the press itself, the water escaping typically through the screens on which the board is pressed with the balance of the drying accomplished by the head of the press platens. Hence the screen pattern on the back of most panels produced by this method.

The original "dry-process" board (and the term recognized usually in the hardboard industry) is a product prepared in a manner similar to the "wet-process" board in the preparation of the fiber and the formation of the sheet, but which is subsequently put through a long, continuous dryer where approximately 95% of the moisture is removed from the stock. This blank is then put into large steam-heated presses where it is consolidated and pressed *dry*.

This dry process has the advantage that it can be made into a smooth two-sides board, but the capital investment required is some higher (by the amount of the cost of the dryer itself) than the board produced by another and newer development, the "semi-dry" method, in which the felting is done without the presence of water and after the chips have been merely softened by cooking, and subsequently ground in a mechanical defibrator.

It is the latter "semi-dry process" which has been the subject of considerable research in the Pacific Northwest and is the type of process developed by the Plywood Research Foundation and will be used by its licensees.

If the latter method proves successful, the investment required will be substantially less than that of the more conventional wet process boards or dry process boards produced with a conventional dryer. The critical fact is whether these semi-dry process boards will have the physical or mechanical properties sufficient to be competitive and whether quality and thickness can be closely controlled in production; the laboratory and pilot plant operations would indicate that they do have such properties. However, as yet no great quantity of this board has been put on the market and hence is still relatively untested in use.

However, since there are proven methods of producing hardboard that may admittedly require a larger capital investment, it is still within the range of many plywood and sawmill operators to consider as an investment, providing they are willing to cope with the important sales and marketing problems involved.

From the standpoint of marketing, the operator with the background in plywood probably would have the advantage over the typical sawmill operator since most of the distributors of plywood are also either distributors of hardboard or prospects for the material. In addition, most of the industrial users of Douglas fir plywood are also users or prospects

(Continued on Page 192)

B.C. PLYWOOD AND HARDBOARD INDUSTRIES EXPAND

British Columbia's Douglas fir plywood production will probably exceed 400 million square feet (⅜ inch basis) this year, representing an increase of about 20 percent over the 1951 record.

Total value of plywood production in the province is estimated at more than $30,000,000, three times what it was as recently as 1946, and double the ten-year-average.

Hardboard production, a comparatively recent entry among the forest products of British Columbia, was about 15,000,000 square feet of quarter inch material last year, and this year it is expected to exceed 25,000,000 square feet.

The industry is in the midst of its most widespread expansion in history, with almost every company engaged in this phase of production installing new equipment to increase capacity and improve the product.

Principal factors in the rising production of plywood in the Canadian province this year are: 1. Completion of the new $1,600,000 plant of Western Plywood (Cariboo) Ltd., at Quesnel; (see article in this issue on this new plant). 2. Construction of a $2,000,000 plywood plant by British Columbia Forest Products at Victoria, marking this important company's debut into the plywood field; expansion of the MacMillann & Bloedel plywood plants at Port Alberni and in the Vancouver-New Westminster district; continuing modernization of Canadian Western Lumber Co.'s plant at Fraser Mills.

Increased hardboard production will result from the doubling of capacity at the Pacific Veneer Division, Canadian Forest Products, New Westminster, recently completed.

Projected new plywood plants for the province are in the program of Celanese Corp. of America for its two subsidiaries, Columbia Cellulose Co. at Port Alberni and Celgar Development Co., at Castlegar, but these depend on availability of peeler logs and other factors yet to be determined.

For the past two years, more than 95 percent of all British Columbia plywood has been absorbed by the industrially active domestic market, about 20 percent being for defense purposes. Reduction in the U. S. plywood tariff at Torquay from 40 to 20 percent was a theoretical gain for the Canadian industry, but under present market conditions at home it has not been feasible to take advantage of it. The United Kingdom was a major importer of Canadian plywood before the war, but its purchases in Canada are now negligible and are not expected to increase substantially owing to the trend towards purchase of logs from the colonies for processing in Britain or establishment of plywood mills in the colonies, such as Central Africa. The United Kingdom is gradually increasing a larger proportion of its needs—today about one-third of its annual 300,000,000 square feet (¼ inch basis).

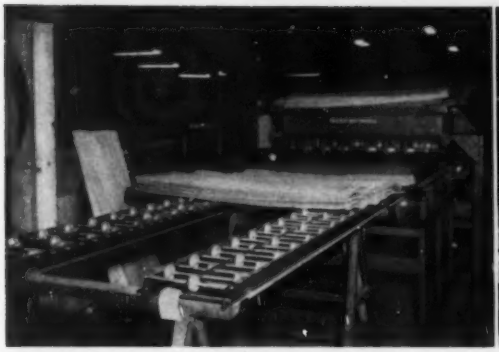
British Columbia now produces more than 70 percent of all Canada's plywood and most of the west coast product is Douglas fir, all exterior grade, giving it more universal market acceptance.

One of the most significant developments in the Canadian Douglas fir plywood industry last year was the establishment of a grading standard with an industry-approved sampling and testing procedure. This standard, adopted by the Plywood Manufacturers Association of B. C., whose secretary is J. B. Armstrong, Metropolitan Bldg., Vancouver, is based on the U. S. plywood grading standard, as published in CS 45-48 by the U. S. Department of Commerce.

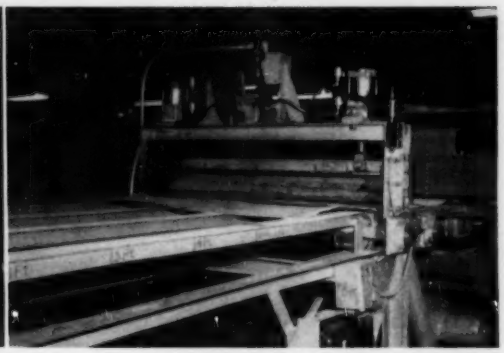
The plywood manufacturing, grading and marketing situation in Canada is simplified because all Douglas fir plywood manufactured by PMBC members has a completely waterproof glue-line. The industry seals, PMBC exterior or PMBC exterior sheathing, stamped on the edges of all panels conforming to the regulations outlined in the standard are the consumers' assurance that the panel is bonded with phenolic-formaldehyde resin glues under rigidly controlled conditions.

This standard is recognized as an important step towards establishment of a Canadian standard, and the association's continuing effort to obtain proper representation of and recommendations for the use of Douglas fir plywood in minimum housing

(Concluded on Page 196)



Automatic clipper. The veneer striking a sprocket sets the requisite distance and actuates switch causing the air driven blade to clip the sheet.



View of front feeding of Mann-Russell electronic (Model 200) edge gluer furnished Nickey Bros. by Northwest Syndicate, Inc., Tacoma, Wash.

HARDWOOD PLYWOOD

Nickey Bros., Memphis, Tenn., add equipment for production of panels from native as well as imported raw materials.

Enhancement of an already well equipped plant for production of fine hardwood plywoods was effected during recent months by Nickey Bros., Inc., Memphis, Tenn., through the addition of a Mann-Russell Model 200 electronic edge gluer and a Handy Mfg. Co. endless panel machine. The electronic edge gluer was the first installed in the South, and created wide interest in the southern industry.

Nickey Bros., Inc., are owners of a substantial "tree farm" acreage of forest land, and Sam Nickey, Jr., had taken a leading role in hardwood land management. The plant features fine southern hardwoods, receiving logs from its own woodlands and from all points in the South, as well as importations from South Africa and the Philippines. In the log market, the company enjoys an advantage in that it produces the full range of products, creating a whole market for the shipper. The company sells hardwood lumber; manufactures hardwood flooring, stair treads, risers and railings, cedar closet linings, and converts the sawdust to Pres-to-Logs.

In plywood, it produces in veneer and lumber core construction, stock panels and furniture panel sizes in a wide variety of species. In addition, it makes long lengths of marine grade scarf jointed stock principally in Philippine mahogany of Philippine construction.

After arrival at the mill, the logs (cut to selected lengths) may be put through a 110-inch Merritt lathe, a 65-inch Capital lathe, two slicers or a rift cut machine. The aggregate cut runs to a million feet of which 400,000 feet is face veneer. Two Coe Manufacturing Co. and one Proctor driers are used.

From the driers, the veneer moves into an adjoining warehouse space, kept at normal temperature, where it is permitted to equalize. Core stocks and backs are cut three or four days ahead but veneer facing cutting runs a month ahead. Faces are cut in rift oak, flat cut oak in red and white, walnut, Philippine mahogany, African mahogany, gum (figured, medium figured and plain), rotary cut gum and birch.

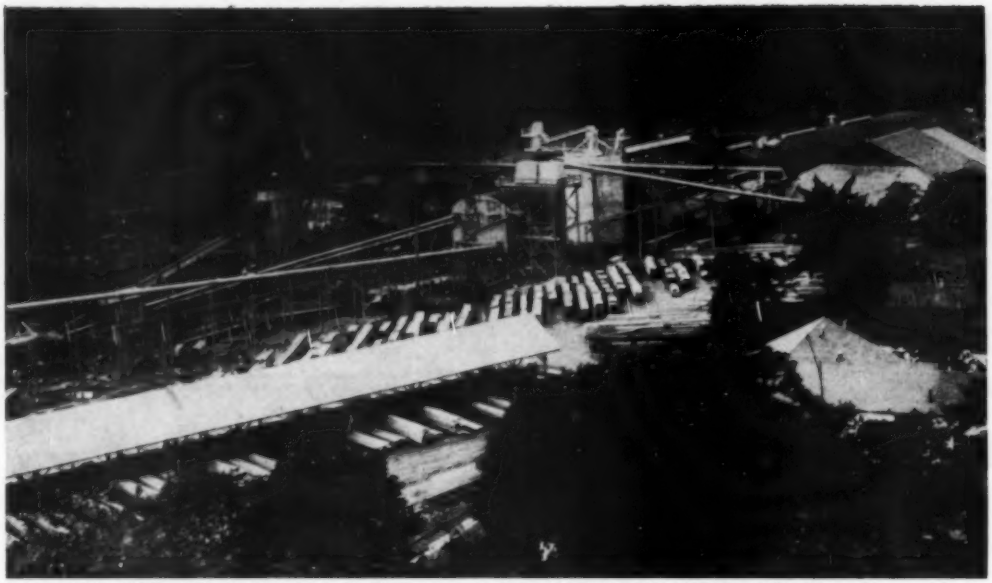
As the order file is worked, face stock desired is drawn from warehouse for cutting to size and trimming on eight clippers. Four jointers are next in line. After glue application, core stock is put through any one of ten G. M. Diehl Machine Works splicers or the new Mann-Russell electronic edge gluer acquired from Northwest Syndicate, Inc., Tacoma, Wash. The electronic machine was added in 1951 when Nickey Bros. attention was attracted by an article published in THE LUMBERMAN.

The machine is 52 inches wide and processes 30,000 feet in 8 hours. Its installation increased the plant's capacity, permitting transfer to face stock of two G. M. Diehl machines. On the electronic machine, U. F. 500 glue is used; and J. S. 508 glue on the other splicers. Veneer is fed into the machine over a roller bearing table set up in the plant and emerges onto an automatic roller bed cutting table designed and built in the Nickey Bros. machine shop. Here the veneer moves down the roller bed to strike a large sprocket wheel set for the length of piece desired. This activates an electric switch, causing an air driven cutter blade to function. Exactness in measurement has been found to result from the automatic device.

Splits and torn places are taoed up

(Concluded on Page 198)

Left to right: Bill Wallace, assistant general superintendent; Paul Roberts, assistant plywood superintendent; W. Jeter Eason, secretary-treasurer, Nickey Bros., Inc.



Raw material for the Oregon Lumber Co.'s new hardboard plant comes from sawmill at left. In the left center of the picture will be seen the wood conveyor from sawmill to hardboard plant. It is interesting to note that much wood formerly sent to the refuse burner will now by-pass that spot and pass on to chipper in the hardboard mill.

Oregon Lumber Company Making Hardboard

OPENING OF NEW MODERN PLANT AT DEE, OREGON, MARKS THE SUCCESSFUL CULMINATION OF A LONG RESEARCH PROGRAM AIMED TO MAKE POSSIBLE UTILIZATION OF SAWMILL BY-PRODUCTS

Aerial view of Oregon Lumber Co.'s plant showing the new hardboard mill in foreground. Note wood conveyor from sawmill, which passes close to refuse burner. The finished hardboard comes out of the large door in foreground.

Hardboard using neither sizing or binder is under full plant-scale production in Oregon Lumber Company's new hardboard division plant at Dee, Oregon which was designed and built by Chemical Plants Division of Blaw-Knox Construction Company. Manufacture is by a strictly new process, developed by this organization, using both wood AND BARK as raw material. For making regular type hardboard, no additives other than water are required.

Oregon Lumber Company undertook investigation in 1948 to develop means of complete utilization of by-products from its Dee sawmill. At that time a substantial quantity of by-product wood wastes were utilized as fuel to operate the plant's steam-electric power plant, manufactured into lath, and sold as household fuel. However, more extensive utilization through production of

Left: Harry Colebank, construction superintendent for Chemical Plants Division of Blaw-Knox Construction Co., which built the Oregon Lumber Co. hardboard plant at Dee, Ore., William J. Runckel, co-originator of the Oregon Lumber Co. hardboard, technical director and in charge of plant operation, A. C. Lighthall, Jr., president of Oregon Lumber Co. Right: John Syme, of technical department, testing hardboard samples in the new plant's laboratory.

higher-utility product was sought.

Search turned toward quality hardboard which could be derived from a bark-wood combination. Late in 1948 the company established a laboratory in Portland to carry on developments toward this objective.

The project resulted in hardboard of around 1.04 specific gravity, modulus of rupture of about 6000 lbs. p.s.i. and of reportedly good paintability. These and other characteristics of hardboard made by the developed process* are considered to have been favored by inclusion of bark with wood as a raw-product component. This is the first wood-fiber hardboard process in which no chemicals whatever are needed, according to the orginators.

In the case of Oregon Lumber Co. the development approach was unusual. Seeking a method for using all of its lumber by-product material that was not otherwise needed, the approach was "how can this continuous flow of bark and wood best be utilized?", rather than the more common approach "how much bark can be tolerated in the manufacture of our product?"

Developers and patent owners of the 'Allboard process" are the late A. C. Lighthall, Sr., president of Oregon Lumber Co. until his death several months ago; William J. Runckel, now technical director and in charge of production in the company's new hardboard division and Arthur B. Anderson, Berkeley, Calif.

Blaw-Knox Construction Company, Pittsburgh, Pa., are exclusive agents to grant license for use of this bark-wood process.

*This hardboard manufactured by Oregon Lumber Co., Hardboard Division, and marketed exclusively by Simpson Logging Co., bears the copyrighted name "Allwood". The process by which this hardboard is to be licensed for manufacture—Blaw-Knox Construction Co. are the exclusive agents—is known as "Allboard Process."

Designed, Built and Equipped By Blaw-Knox

The Chemical Plants Division of Blaw-Knox Construction Company designed, constructed and equipped the plant under a turnkey contract. Mr. E. L. Niederhofer was in charge of the design of this new $2.5 million hardboard plant and Harry Colebank supervised construction for Blaw-Knox Construction Co.

Oregon Lumber Company, of which A. C. Lighthall, Jr. is president, confined its manufacturing to lumber production until the start of the new hardboard plant early this year. Besides the company's Dee plant, it has a sawmill at Bates and remanufacturing plant at Baker, both in the Northeastern part of Oregon.

The Dee sawmill operates on timber harvested from U. S. Forest Service lands and from company-owned lands between the Columbia river and Mt. Hood, according to General Manager J. D. Wirrick. Annual production of lumber at this plant runs 30 to 35 million board feet.

Several distinct economic factors appear to be favorable to the "Allboard process". Hardboard can be produced from Douglas fir, Ponderosa Pine, southern pine, white fir, and hemlock wood and bark. Ply-

Slabs and edgings, complete with bark, discharging from conveyor chain into chipper.

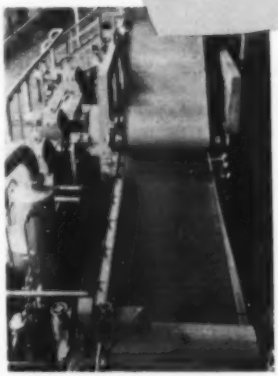
Removing oversize chips with Link-Belt vibrating chips screen.

(Left) View showing headbox and forming section of the Downingtown Hardboard Machine.

(Lower Left) Looking down on the forming and press sections of the new Downingtown Hardboard Machine at the Oregon Lumber Co.

(Below) Elevation of a typical Downingtown Hardboard Machine.

A NEW DOWNINGTOWN HARDBOARD MACHINE AT THE OREGON LUMBER CO.



The recovery of wood and bark by-products of lumber production and their conversion into useful hardboard is both a means of conservation and a profitable operation.

This is the function of the hardboard mill built by Oregon Lumber Co. Downingtown built the continuous forming and press units which include a stainless steel headbox and slice, fourdrinier section and the press section. This unit has a capacity of 200,000 square feet of wet mat per day.

Ask your Downingtown Sales Engineer to submit plans for the development of board machines which successfully use by-products of lumber, cane, etc. in the manufacture of wallboard and hardboard.

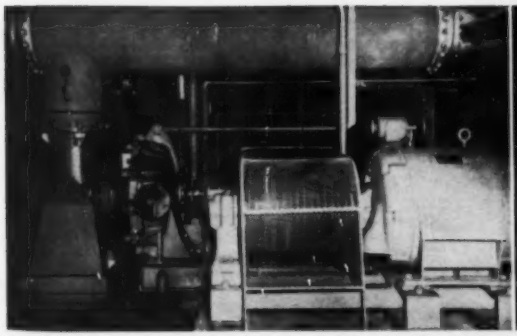
DOWNINGTOWN MANUFACTURING CO., DOWNINGTOWN, PA.

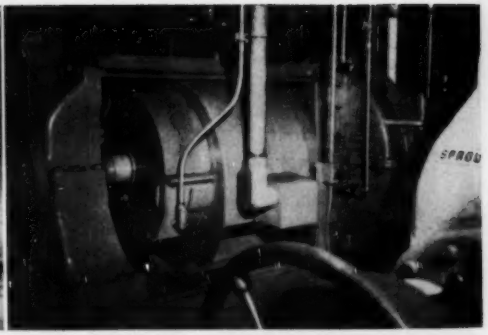
Pacific Coast Representative. John V. Roslund, Pacific Bldg., Portland 4, Oregon

MODERNIZATION IS CONSERVATION

DOWNINGTOWN HARDBOARD MACHINES

DESIGNERS AND BUILDERS OF PAPER, BOARD AND FELT MACHINES SINCE 1880





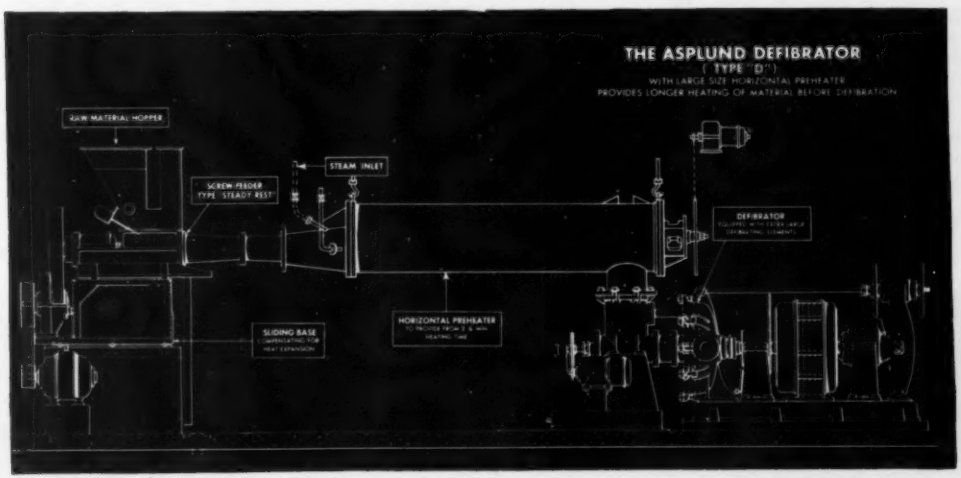
Left: One of the two American Defibrator Co. Asplunds which cook the chips under pressure, then defiberize the cooked chips. The Asplunds are powered by 250 h.p. Westinghouse Life-Line motors. Right: Sprout-Waldron single-disc refiners powered by 450 h.p. E.M. motors.

wood wastes can also be utilized as a raw material. Consequently the supply of raw materials available for making hardboard at sawmills or plywood plants is extensively larger than it would be where only the wood would be suitable raw-product material. Furthermore, debarking processing is eliminated; slabs with bark are in most cases readily available and at lower cost than when contracted for as bark-free wood. The "Allboard process" can successfully utilize a wide range of bark percentages. The amount of bark present within these limits appears not to be critical in order to produce satisfactory, uniform hardboard. Consequently bark is not separated from the wood; wood with bark attached is chipped and processed without segregation. By using slabs with bark as available from sawmill in production it has been found unnecessary to separate bark and wood and recombine them to bring the mixture to specific bark to wood ratio. Run-of-the-mill slabs, edgings, and trims at this plant keeps bark-to-wood ratio within limits of satisfaction.

Less horsepower is required for pulping bark-wood mixture than for pulping straight wood chips. The power saving has been estimated at about 20% to 30%.

Although chemicals are not needed for production of regular-type hardboard by this process, tempered-type panels can be made by addition of synthetic resins.

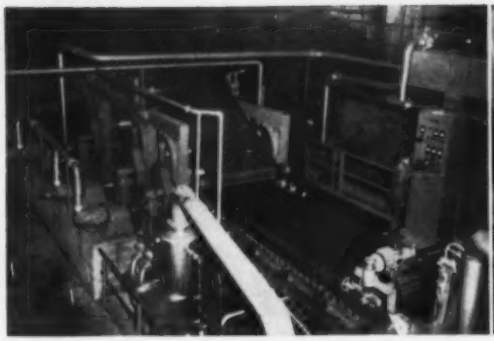
It is estimated that each 1000 sq. ft. of ¼ in. hardboard made via the "Allboard process" requires .75 ton



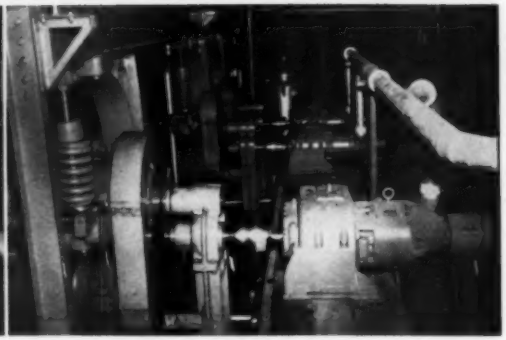
The Defibrator produces superior pulp for wallboard, hardboard, insulating board, corrugating board, and roofing felt from all kinds of chipped wood or other fibrous ligno-cellulose materials such as bagasse or straw.

The process can be controlled to produce or duplicate any desired degree of freeness or fineness of fibre. Pulp is homogeneous with all fibres intact, but well separated. Yield is high and power costs are low.

AMERICAN DEFIBRATOR, INC. CHRYSLER BUILDING NEW YORK 17, N.Y. West Coast: A. H. Lundberg Orpheum Building, Seattle, Wash.



Forming wet mat on Downingtown fourdrinier board forming machine equipped with W. S. Tyler Co. phosphor-bronz wires.



Close up of the Westinghouse direct current drives on the Downingtown board forming machine.

of slabwood (bone dry basis), 2500 gallons of make-up water, 375 k.w.h. electric power, 2500 lbs. of process steam (275 p.s.i.), and five man hours.

The plant has daily capacity for manufacture of 120,000 square feet of ¼ in. or 180,000 square feet of ⅛ in. hardboard. Simpson Logging Company, Shelton and Seattle, Wash., handles the marketing of the entire production.

The Simpson Logging Company of Seattle and Shelton, Wash., will handle the sales of all the hardboard produced in the new plant. The Simpson Logging Co. has for several years operated a softboard plant at Shelton. Since hardboard and softboard are companion products both Oregon Lumber Co. and Simpson Logging Co., feel sale of the hardboard, softboard and plywood produced in the respective plants will fit into a workable pattern.

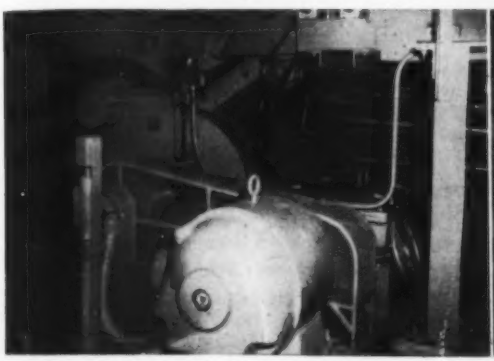
Simpson Logging Co to Sell Product

In order to intelligently market "Simpson Allwood Hardboard", Simpson Logging Co. has engaged Robert A Miller as Hardboard salesmanager. Mr. Miller was for twenty five years with the Masonite Corporation, having served in many capacities including those of sales engineer, technical director and industrial salesmanager. Simpson Logging Co., has also transferred William McCann from Shelton where he was a foreman in the company's wood fibre plant, and who has conducted much research work, to Dee, where he will be engaged in Sales production co-ordination activities. Several hardboard salesmen will also be added to the company's staff.

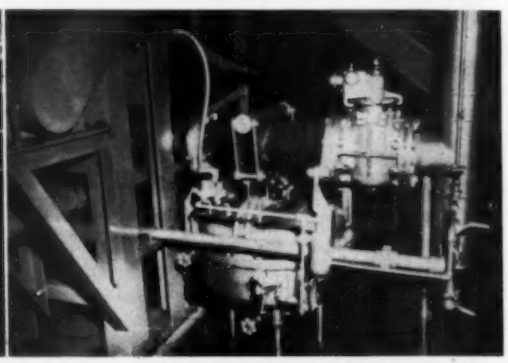
Raw products for the Oregon Lumber Co. hardboard operations consist of solid wood and bark by-products from the company's adjacent 175,000 board foot sawmill, the material mostly in the form of slabs, but including trims and edgings, in lengths up to 4 feet. Short pieces and slivers coming from the sawmill are diverted to a hog for conversion into hog fuel for the steam-electric power plant which furnishes power for both sawmill and hardboard plant. The suitable hardboard raw-product wood and bark, mostly Douglas fir, but including some white fir and hemlock, continues on past the hog, through hydraulic washer, to chipping plant.

Facilities are provided between the hog and chipping plant for stock-piling a 3-day supply of slabs, either from the company sawmill or other sawmills in the vicinity. From storage the slabs can be placed in the chipper feed conveyor by crane.

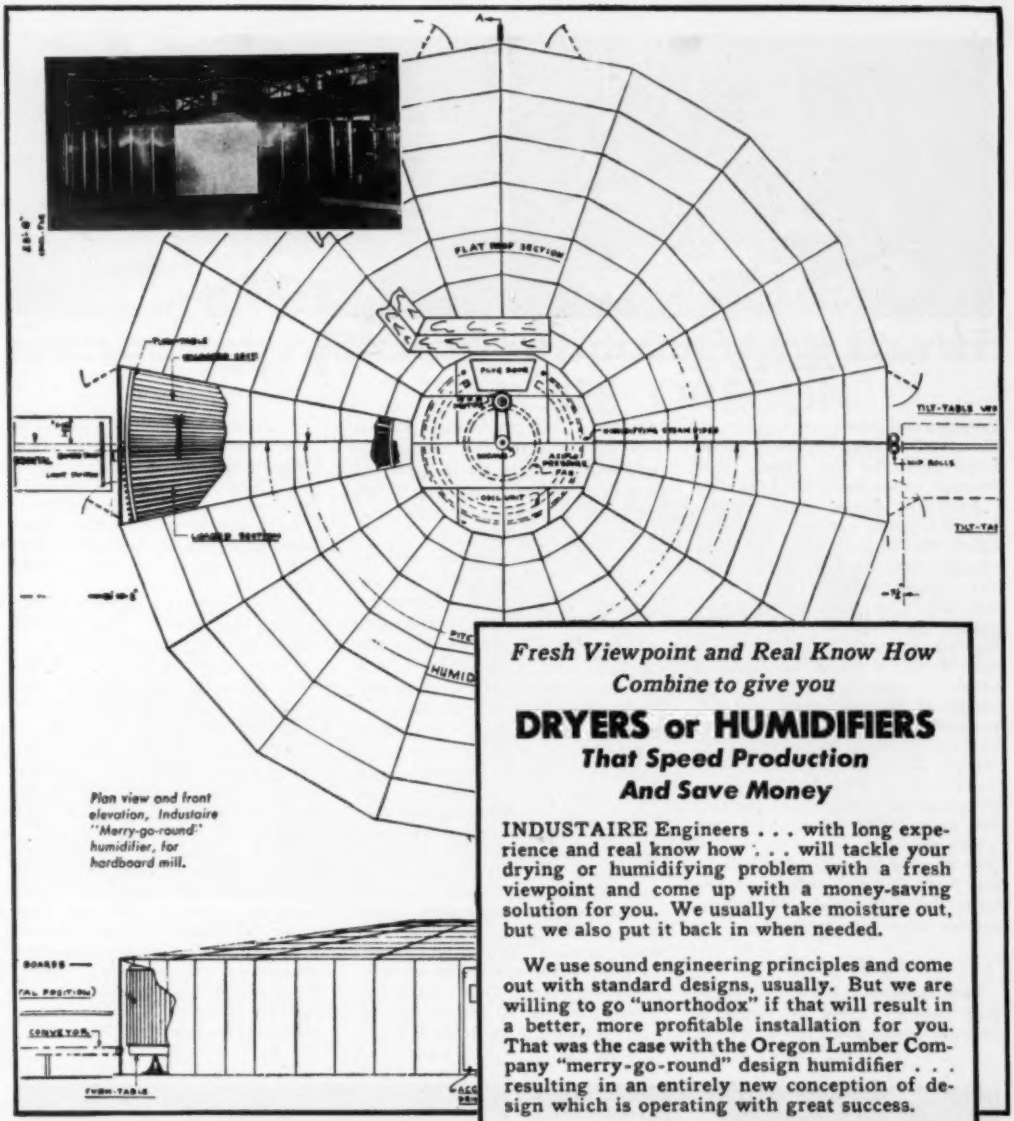
The cleaned slabs feed into a 10-knife 64 in. D. J. Murray Co. Murco chipper where they are reduced into chips ⅝ to ¾ in. long. The resultant chips pass over a magnetic separator, for removing tramp iron, enroute to Link-Belt vibrating chip screen where chips over ¾ in. in length are removed. These oversize chips go through a 24 in. Murco rechipper which also feeds back to the screen.



Gruendler wet pulp lap shredder, V-belt powered by 60 h.p. Life-line motor, continuously receives wet-mat edgings, or whole mat when production delay occurs behind this point. White water sluices the mat material into beater, the combined actions separating fibers for return to stock chest by a Warren pump at 3% consistency.



Valves controlling white water supply for Gruendler wet-broke beater. DeZurik manually-operated control valve at right, regulating the potential supply to Flexible Valve Corp. air-operated automatically controlled flex-valve at lower center, which supplies water to Gruendler machine as needed.



Plan view and front elevation, Industaire "Merry-go-round" humidifier, for hardboard mill.

Fresh Viewpoint and Real Know How
Combine to give you

DRYERS or HUMIDIFIERS

That Speed Production
And Save Money

INDUSTAIRE Engineers . . . with long experience and real know how . . . will tackle your drying or humidifying problem with a fresh viewpoint and come up with a money-saving solution for you. We usually take moisture out, but we also put it back in when needed.

We use sound engineering principles and come out with standard designs, usually. But we are willing to go "unorthodox" if that will result in a better, more profitable installation for you. That was the case with the Oregon Lumber Company "merry-go-round" design humidifier . . . resulting in an entirely new conception of design which is operating with great success.

If you have a drying problem, and you'll drop us the slightest hint about it, you'll be surprised at the lengths to which we'll go to speed up your process or cut down your costs, or both. *Why not drop us a hint about your drying problems, today?*

DRYERS for Softboard, Wallboard, Gypsum Board, Plywood, Veneer

DRY KILNS for Lumber

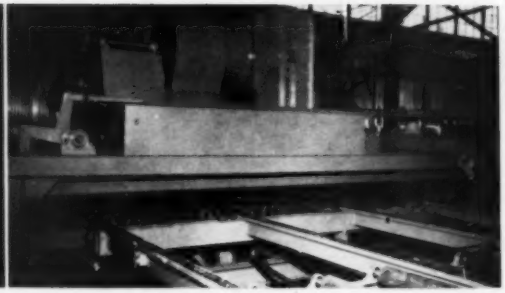
HUMIDIFIERS for Hardboard

Air Engineering INDUSTAIRE Industrial Dryers

INDUSTRIAL AIR COMPANY

1620 Hyde Park Ave., Hyde Park, Massachusetts

Westinghouse Rototrol and motor generator set for board forming machine; Westinghouse motor generator set supplying d.c. power for defibrator throat feeds.



American Manufacturing Co. vacuum transfer holds panel-size wet mat suspended above rolls as wire-carrying caul plates moves under the mat.

Stephens-Adamson conveyors and elevators transport the raw-product chips from the big chipper clear through to the main plant building.

From the screen, chips go to a bucket elevator and are carried up above the chipper house and discharged onto horizontal belt conveyor leading to 24,000 cu. ft. Layrite Air Cell Corp concrete-stave chip storage bin which has chip capacity for 48-hour production. Chips feed from bottom of the storage bin, past another magnetic separator, by means of Stephens-Adamson proportioning table to Cincinnati Rubber Co. Sandow belt transferring chips to another S-A bucket elevator leading to top of the plant. A Radler conveyor transports chips from the elevator to processing room, where the chips are converted to fiber form, discharging into defibrator feed conveyor which choke-feeds the defibrators and returns surplus chips for recycling.

Chip Processing

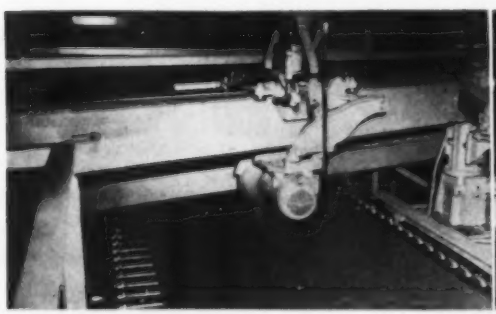
Two American Defibrator Company modified Type "D" Asplunds steam and heat the chips in a continuously fed pre-heater tube at 140-175 p.s.i.g. and at a temperature of 361-377° F.; the temperature and pressure varying according to the raw material quality and the fiber quality desired. The moisture content of the chips is increased in the Asplunds by the steam and by the addition of five-gallons per minute of water to each unit. After heating about one minute, the chips are discharged from the pre-heater tube to the single rotating disc defibrator section of each Asplund. Each defibrator is powered by a 250 horsepower Westinghouse (wound rotor induction?) motor. Here the chips are converted to a mixture of coarse shives and fiber bundles, then blown, by the release of the steam pressure, to a cyclone following each Asplund system. This fiberous mixture, diluted to 8% B. D. consistency in the cyclone, is conveyed to 450 horsepower Sprout-Waldron 36-2 single rotating disc refiners powered by integral Electric Machinery synchronous motors. One refiner follows each Asplund system cyclone. The functions of the refiners are:

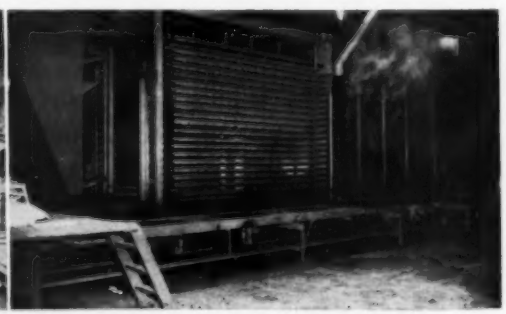
1. To reduce the coarse shives to fine fiber bundles producing a fast draining stock, free of coarse shives and fines, and having a uniform, well-balanced fiber classification.
2. To render the fiber more flexible and pliable so that it felts well and produces a uniform, strong board.
3. To improve the appearance and surface qualities of the finished board by eliminating the shives.

The refined fiber is reduced to 3% B.D. consistency as it discharges from the refiners into the first of three 40,000 gallon stock chests.

During fiberizing-refining processing, water is added in quantities sufficient to deliver stock to the chests approximately 3 per cent consistency.

Moisture content of the chips increases in the Asplunds by application of steam and also by addition of water at 5 g.p.m. in each unit. More water is added at the refiner cyclones, bringing stock to 8 per cent consistency (92 per cent water). During refining operations, the further addition of white water brings the consistency to 3 per cent.



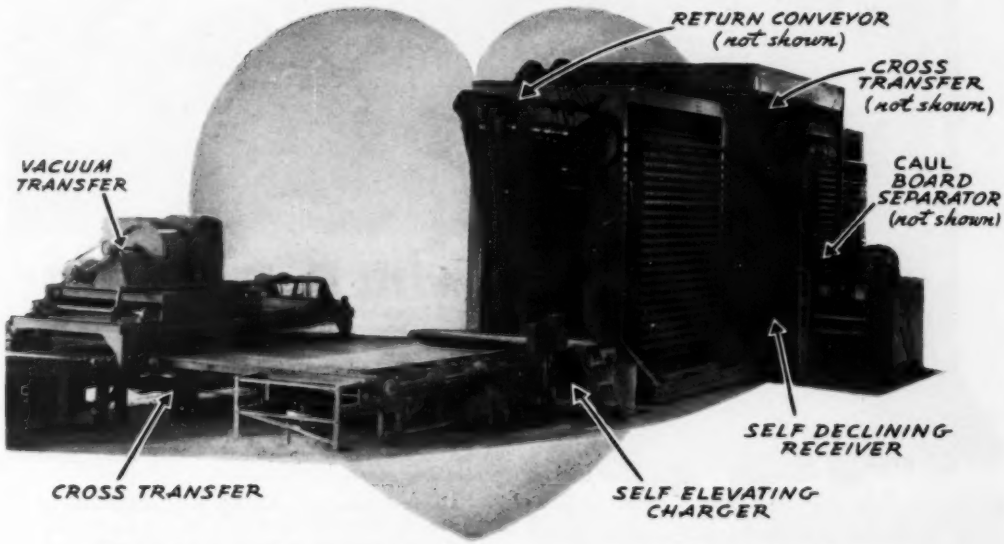


Left: Coe Mfg. Co. wet saw cutting mat to 16 ft. 3" panel lengths. Right: Pressing a charge of twenty 4 x 16 ft. hardboard panels in R. D. Wood & Co. 20-opening hot press. To right of press is American Manufacturing Co. automatic press-loader and on left is American Manufacturing Co. automatic press unloader. American Manufacturing Co. conveyor is shown returning caul plates and screens to vacuum transfer where wet mats will again be received.

Congratulations to

OREGON LUMBER CO.—

UPON THE COMPLETION ★ OF THEIR NEW "ALLBOARD" PROCESS HARDBOARD PLANT AT DEE, OREGON



Here's another progressive company that has chosen AMERICAN MANUFACTURING COMPANY, Inc. to supply press handling equipment for the "HEART" of their hardboard plant.

Call on us for assistance from the smallest pilot operation to the largest producing plant — PLEASE WRITE!

American MANUFACTURING COMPANY INC.

PLYWOOD-HARDBOARD and SAWMILL MACHINERY DESIGNED and MANUFACTURED

TACOMA 2, WASHINGTON, U. S. A.

IN CANADA:
AMERICAN MFG. CO., LTD.
R. N. PINTON, MANAGER
VANCOUVER, B. C.

IN THE SOUTH-EAST:
AMERICAN MFG. CO., INC.
HENRY H. KEENAN, MANAGER
GREENSBORO, NO. CAROLINA

From Waste Bark...TO HARD BUILDING BOARDS...

with R. D. WOOD

When executives at Oregon Lumber Company decided to utilize waste forest by-products at its Dee, Oregon Saw Mill, the development approach was unusual.

They established a laboratory to experiment toward this end, developed "ALLWOOD", a new process in the production of a high utility *hard building board.*

"Allwood" is unique in that it is a combination of waste woods and bark without the normal requirement of chemicals or additives usually employed.

Several distinct advantages appear favorable in the development of these materials as marketable hard building board:

- *The process increases, by a considerable degree, the better use of the available supply of raw material.*
- *The process eliminates the difficult requirement of de-barking.*
- *The process eliminates the expense of chemicals or other additives.*

The end result is a hardboard of approximately 1.04 specific gravity, modulus of rupture of about 6000 psi, and of good paint reception.

R. D. WOOD COMPANY'S 54" x 198", 20 opening, Steam Platen Hydraulic Press, installed at this plant, makes a major contribution to the success of the processing operation. This efficient press enables this manufacturer to obtain a daily capacity of 120,000 square feet of ¼ inch or 180,000 square feet of ⅛ inch hardboard of uniform and unvarying quality.

Write for literature on R. D. Wood Company's Press Equipment for the Hardboard Manufacturer.

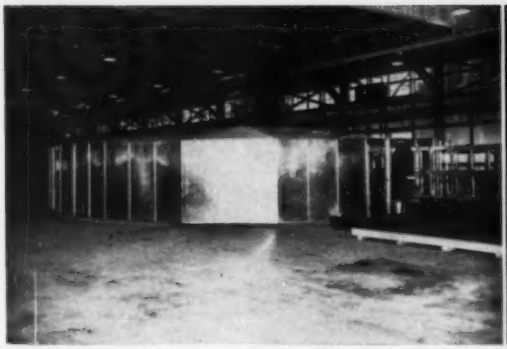
HYDRAULIC PRESSES AND VALVES FOR EVERY PURPOSE
ACCUMULATORS
ALLEVIATORS
INTENSIFIERS

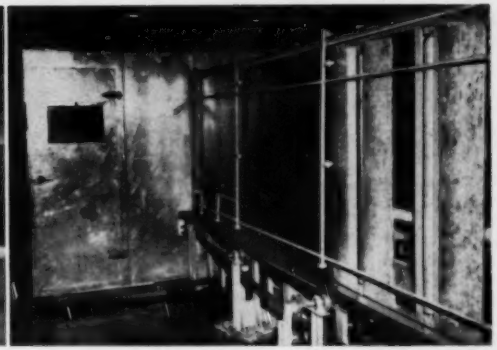
R. D. WOOD COMPANY

PUBLIC LEDGER BUILDING, PHILADELPHIA 5, PA.

Established 1803

R.D. WOOD





Humidification: Left: Industrial Air Co. 48 ft. diameter merry-go-round type hardboard humidifier with capacity for 240 panels. Engering on edge at far side of humidifier, the panels slowly progress around to 180 degrees from point of entry to emerge in 1 to 4 hours to Industrial Air Co. tilting table (far right) at 5 to 7 per cent moisture content. Right: Moulded panel moves on edge from Industrial Air Co. air-operated tilting table into Industrial Air Co. humidifier.

Brooks Rotameter Co. rotameters control the additions of water to stock during fiberizing and refining.

Stock flow is consecutive through 1-2-3 stock chests, each equipped with APMEW rapid circulation chest agitator to keep the fibers and solids in suspension. There is approximately 1-⅓ hours hold-up time in each chest. Considerable of the process piping was fabricated from stainless steel by Northwest Copper Works, W. G. Rovang & Associates, and Alaska Copper Works.

From No. 3 chest (machine chest) stock is pumped by a Warren pump to a Brammer (Pandia, Inc.) consistency control regulator. This unit, accurate to 1/10 of 1 per cent, adds white water to reduce the slurry from 3 per cent consistency to 2%.

The Brammer consistency control regulator is equipped with Foxboro recorder-controlled which records and controls the amount of water added and the consistency of the stock leaving the regulator.

The consistency of the stock to the forming machine varied between 1 to 2%. To reduce the consistency of the stock from 2 to 1%, white water is added by a proportioning box.

Drainage from the white water tank, the refiner floor drains, and from the forming machine, are collected in a sump and pumped to a process waste disposal pit. The waste water solids are tapped in the waste disposal pit and periodically trucked away.

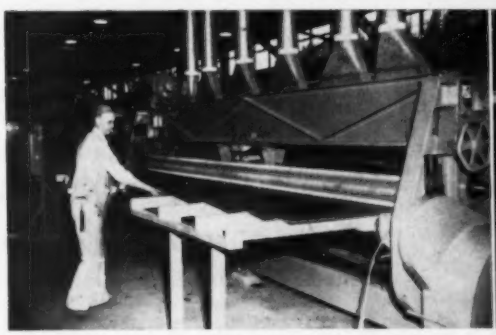
The slurry from consistency control regulator and the white water from the proportioning box flows to a Santa Fe Tank and Tower redwood mixing tank equipped with Industrial Process Engineers propellor type agitation to mix the white water and stock and keep the stock well distributed in suspension delivered to headbox of Downingtown fourdrinier board-forming machine. Provision has been incorporated for the future mixing and addition of alum solution at the mixing tank.

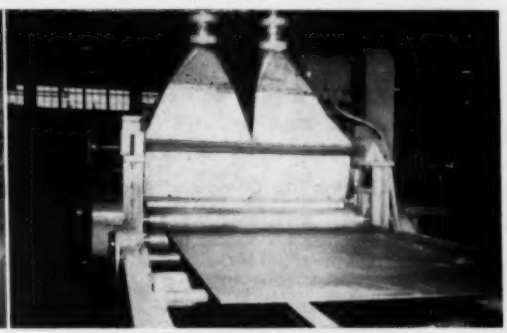
The stainless steel headbox of the Downingtown Forming Machine is a multi-pass arrangement and tapered so that stock, entering through an inlet at the bottom is spread evenly to the width of the machine. The cross sectional areas of the passes up to the slice are gradually reduced so that stock ingredients are intimately mixed. An adjustable inlet valve permits positive control of stock flow. An adjustable slice lip regulates the amount of stock to the wire, and also permits correction of caliper variation across the width of the board. A rotating roll located on top of the board after the slice levels off the top surface.

Forming and Pressing

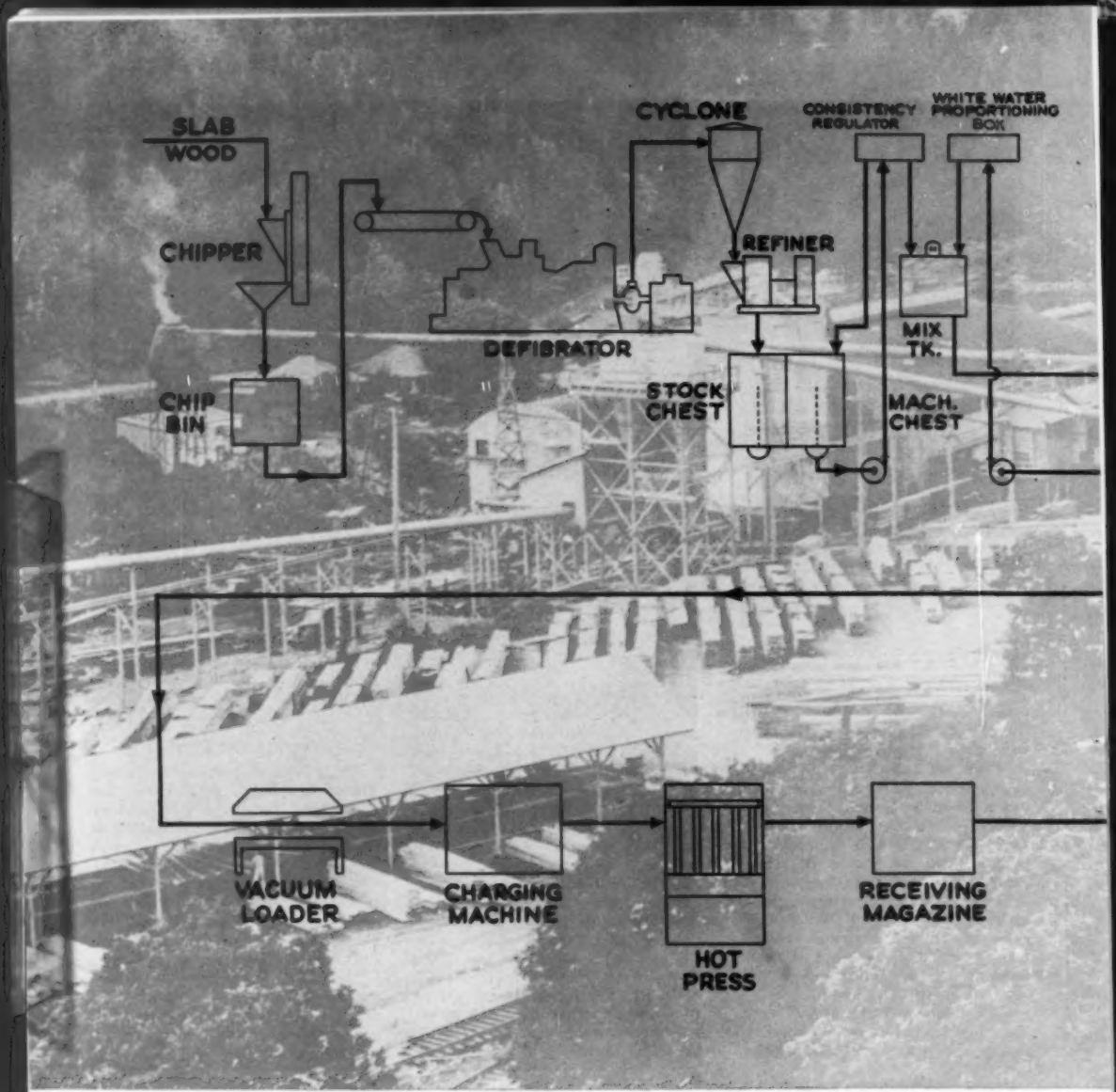
The press and forming sections of the machine are integral in that the same wire that is used to convey the sheet, is also used to carry it through the presses. A top wire is employed in the press section, also. The forming section has two vacuum boxes operating in conjunction with a Nash vacuum pump, and three sets of presses with space available for the addition of another set of presses.

The continuous forming and pressing unit complete has a capacity for running 180,000 sq. ft. of wet mat per day and usually operates at speeds of 20 to 35 FPM.





Marsen-Johnson trimmer puts finish edges on both ends, converts the 4 by 16 ft. panel into 4 by 8 ft. panels, and brushes off face surface in one pass through the machine. Marsen-Johnson edging puts finishing edges on sides of hardboard panel. Edgings are reduced to fines as removed from the panel.

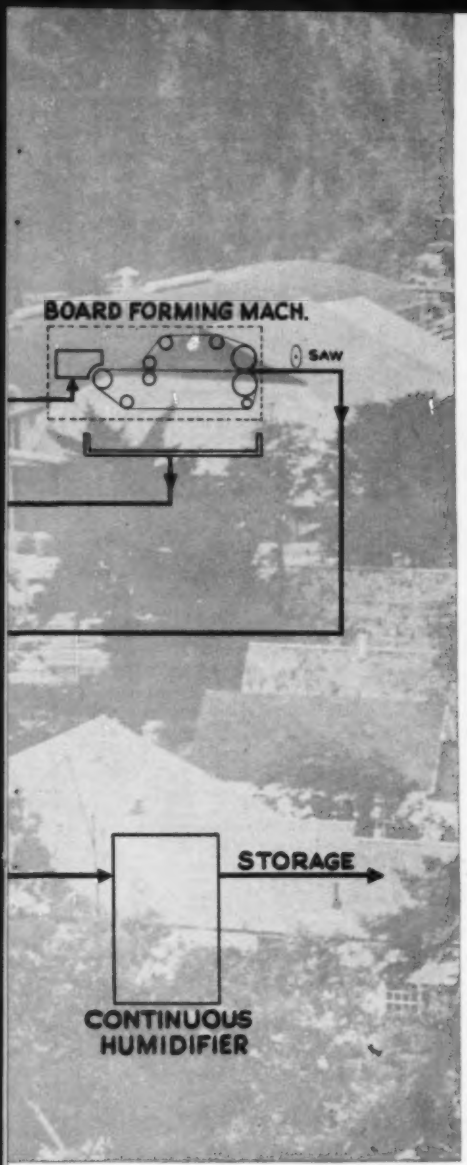


FLOW SHEET SUPERIMPOSED ON PHOTO OF OREGON LUMBER COMPANY'S

Chemical Plants Division of Blaw-Knox Construction Company, exclusive licensor of the ALLboard Process, designed and built the plant pictured above. This Oregon Lumber Company plant at Dee, Oregon, has a capacity of 120,000 sq. ft. of ¼" board per day.

Chemical Plants Division will design, construct and equip complete hardboard mills, softboard mills or combination hardboard-softboard mills. Data on investment, operating cost and revenue is now available on request.

©1952 Blaw-Knox Company.



Convert Waste Wood Chips into "Blue Chips"

WITH AN ALLboard MILL

NOW you can produce quality hardboard at low cost from waste slabwood. Hardboard, made from Douglas fir and other woods, is used for both structural and decorative purposes.

Utilizing slabwood without debarking, the ALLboard Process . . .

- Requires no sizing agents, resins or other additives.
- Produces better quality board.
- Yields more board for same quantity raw material.
- Lowers overall production costs.
- Is a proven process.

Before offering the Lighthall-Anderson ALLboard Process for commercial production, the advantages were demonstrated in the laboratory and confirmed in pilot plant operation. The best temperature, pressures, fiberizing time and production techniques were established. ALLboard can be manufactured in ⅛", 3/16" and ¼" thicknesses.

Why Burn It When You Can Sell It?

ALLboard may be finished with one or two smooth sides, tempered, and treated for exterior use.

Existing board mills may be *easily and economically converted* to use the ALLboard Process.

We can help you convert your waste wood chips into "blue" chips . . . Get in touch with us for the complete story.

ALLboard MILL

Mr. W. J. Runckel, Technical Director, Oregon Lumber Company says this about the Dee Plant . . . "Blaw-Knox, in my mind, has done a superior engineering job and in the years to come, the fruits of the engineering efforts of this company will become more apparent."

CHEMICAL PLANTS

DIVISION OF BLAW-KNOX CONSTRUCTION COMPANY

PITTSBURGH 30 • TULSA 1 • NEW YORK 17 • PHILADELPHIA 3
CHICAGO 3 • BIRMINGHAM 3 • WASHINGTON 5, D.C.

This machine is equipped with W. S. Tyler Co. phosphor-bronz 24x24 mesh fourdrinier wires, 75 ft. by 64 in. bottom and 45 ft. by 64 in. top; Sandusky showers used on both wires.

On the forming machine the low-consistency stock is converted to wet mat of 50 per cent moisture content—one inch thickness of mat per ⅛ in. thickness of finished hardboard.

Behind the third press roll, a series of flat conveyor rolls receive the mat, taking it past two Coe edging saws which remove outside edges, leaving mat 4 ft. 3 in. wide. The mat is then cut to lengths of 16 ft. 3 in. by a travelling Coe wet cut-off saw.

Water removed from stock by suction boxes, press rolls and natural drainage, first goes to white water chest and then transferred to white water storage where make-up water is added as needed. Quality of white water, as concerns the amount of fines and the concentration of soluble impurities from wood can be maintained by continuous drainage of a portion of white water storage tank contents.

A Gruendler wet-pulp shredder behind wet cut-off saw receives edging trims and rejected wet lap, water and beater action there reducing the received mat to 3 per cent consistency in machine- stock condition and this stock returned to No. 2 stock chest by a Warren pump. The Gruendler Wet Lap Shredder is a dual purpose machine as it repulps the trim and the wet lap as required. Action of this machine is that of hydraulics and controllable pressures rather than impact or abrasion. Water supply for the shredder is automatically controlled by Flexible Valve Corp. air-operated flex-valve ahead of which is a DeZurik manually-operated control valve.

After the mat passes the cut-off saw and there cut to length for pressing, the travel speed of the 16 ft. 3 in. sections is accelerated on Coe speed-up rolls to separate the mats before reaching a vacuum transfer, the next point of handling.

Wet-mat sections, in panel size, traveling at 240 l.f.p.m. on live rolls are accepted at the same speed by live rolls of American Manufacturing Co. transfer equipment. These rolls are slowed down and then stopped accurately at a definite position and a vacuum transfer head then lowered, the vacuum turned on, the mat then lifted by vacuum head and held at this position while the live rolls are reversed and a caul, topped by a screen, is brought under the vacuum head from opposite direction from which the mat was received. That mat is then lowered onto caul and screen, head raised, and the caul with mat transferred to the loading equipment through the media of cross chains and live rolls.

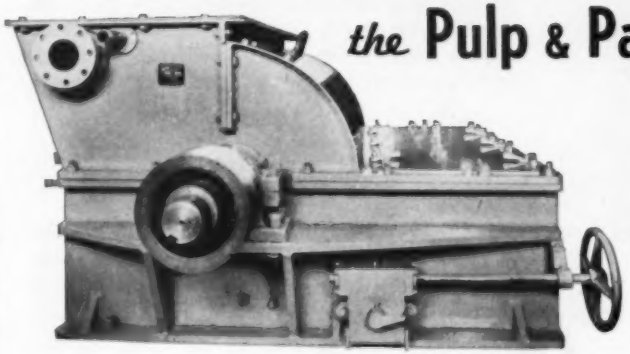
Press Charging and Unloading

Charging equipment consists of American Manufacturing Co. self-elevating charger which elevates one station whenever a new caul enters and reaches its final position in the charger. When 20 loads are accumulated, the elevator automatically stops and the load is inserted in the R. D. Wood 20-opening 54 by 198 in. hot press by means of a pusher bar, this bar manually controlled by the press operator.

After the press load is properly cured in the press it is drawn into American Manufacturing Co. receiver by puller bar which clamps onto the lugs attached to the cauls. This receiver is similar to the self-elevating charger. The receiver is interlocked with the charger is such fashion that when it is in automatic operation it will discharge one caul whenever the charger receives one caul, thereby keeping the system balanced.

The cauls, with the board, after

ANOTHER GRUENDLER UNIT *for* the Pulp & Paper Industry!



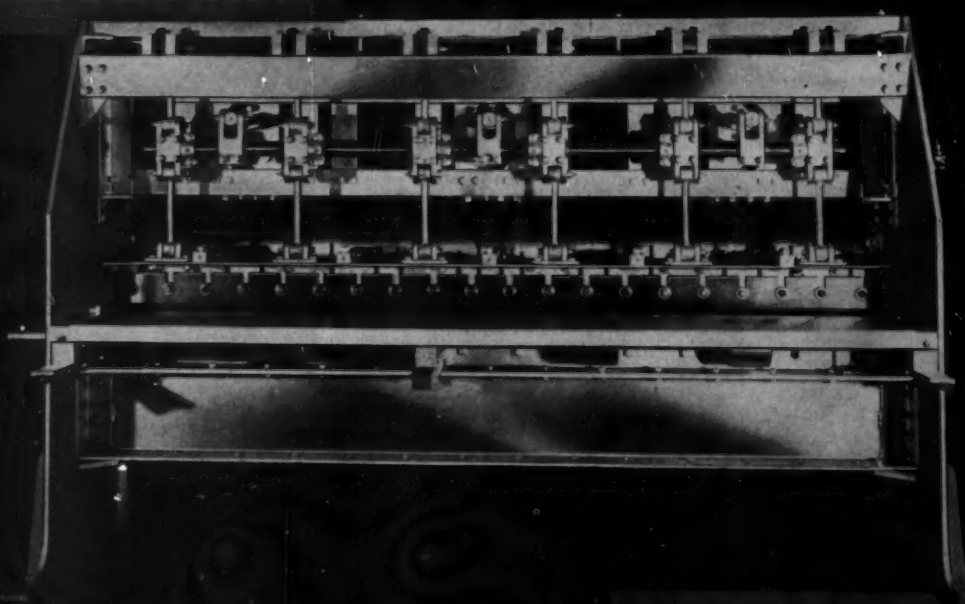
Wet Lap Pulper at Oregon Lumber Co. Hardboard Mill at Dee, Oregon

Turbo Pulp Refiners • Knots & Rejects Shredders • Hot Lime Breakers
Coal Crushers • Bark & Wood Hogs • Salt Cake Breakers
Paper & Board Shredders • Pulverizers, etc.

GRUENDLER CRUSHER & PULVERIZER COMPANY
MAIN OFFICE: 2915 NORTH MARKET STREET • ST. LOUIS 6, MISSOURI
West Coast Representative: FRED G. GREAVES COMPANY, SEATTLE, WASHINGTON

GREATER VENEER RECOVERY

Achieved with the
ELLIOTT BAY SEMI-AUTOMATIC CLIPPER



FOR ALL VENEER OPERATIONS

Greater efficiency in veneer cutting is introduced by the Elliott Bay Semi-Automatic Clipper, proved by years of successful operation in many Douglas fir, pine and hardwood plywood factories.

Plant space is conserved as long storage trays are unnecessary; the Elliott Bay Clipper can be short-coupled to the lathe, with which it is synchronized at lathe speed.

Tearing of veneer is eliminated, thus saving raw material; the clean-cutting clipper knife operates against a long-lasting copper shear bar.

Push button controls afford accurate selectivity of veneer of varying widths. The advanced and tested Elliott Bay Clipper is of all-steel, precision construction. Ease of installation and minimum upkeep demonstrated repeatedly.

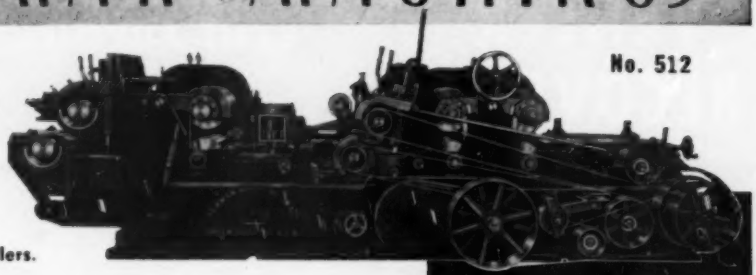
SAVES SPACE
FAST-ACTING
ACCURATE

ELLIOTT BAY PLYWOOD MACHINES COMPANY
600 West Spokane Street, Seattle 4, Washington
Sales Representative: WIENKER MACHINERY CO. Maritime Bldg., Seattle 4, Wash.

NEWMAN MACHINES

Newman

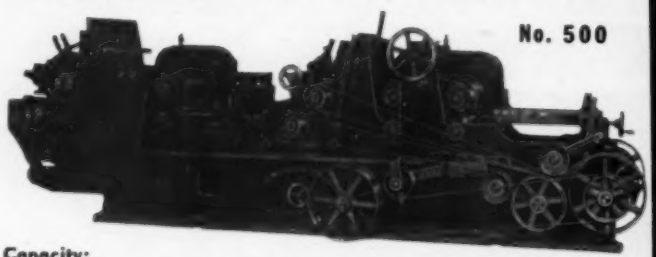
No. 512



Capacity: 16" and 24" wide, 8" thick.
Speeds up to 325 feet per minute.
8" dia. cutting circle.
Six 12" dia. feed rolls.
Single and double profilers.

BALL and ROLLER BEARING PLANERS AND MATCHERS

No. 500



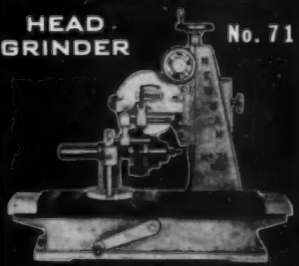
Capacity:
14" and 24" wide, 6" thick. Speeds 40 to 200 feet per minute. 7" cutting circle. Six alloy steel feed rolls. High carbon special alloy steel cylinders. Single or double profilers.

ORDER NOW FOR EARLY DELIVERY

ALL NEWMAN cylinders or heads are DYNETRICALLY BALANCED insuring an accurate and superbly finished product.

The ball bearing NEWMAN 71 (shown below) will grind all sizes of cutter heads. Table is 33" long by 9" wide with horizontal travel of 25" and is heavily ribbed to maintain accuracy over entire travel. Maximum cutter head swing is 11".

HEAD GRINDER No. 71

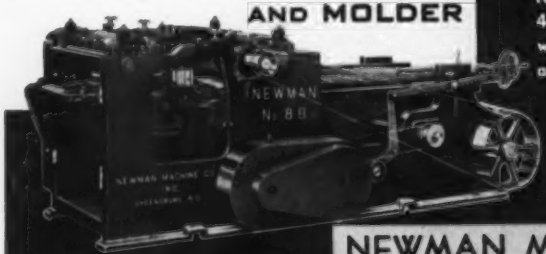


Ball and Roller Bearings

No. 55 AUTOMATIC PINEAPPLE FEED TABLE

The NEWMAN 55 feeds stock automatically to high speed planers and matchers up to 450 lineal feet per minute. Capacity: 30" wide, 8" thick. All adjustments and controls are centrally and conveniently located.

No. 8-B PLANER, MATCHER AND MOLDER



Unsurpassed for work in small and medium mills

The NEWMAN 8-B planes 22" wide and 8" thick, joints 4" thick and will match 14" wide. 6" diameter feed rolls. Speeds of 30, 50 and 75 feet per minute.

MAY WE SEND YOU FULL DETAILS?

NEWMAN MACHINE COMPANY, INC.
GREENSBORO, NORTH CAROLINA, U.S.A.

leaving the receiver pass through a special plow that strips the board from screen and caul, the screen-caul passing at lower-leck level and the board passing overhead to the humidifier. The empty carrier plate and screen then transfers via chains and live rolls back to the starting point of the vacuum transfer equipment.

A matter of special interest with regard to the speed of the vacuum transfer rolls is an Oilgear variable-volume hydraulic transmission, electrically controlled having 2-speed forward and reverse and stop positions. This drive furnishes power to the live rolls which receive the mats and cauls at high speed, and gives the necessarily accurate positioning of the mat on the cauls.

One of the very special features about the charger and receiver is the fact that they are continuous in operation, there always being an empty of full opening within a very short distance of travel of the mechanism and no considerable time is required to make read for a new batch, which is not the case in the event a straight elevator mechanism is used, because the elevator must be returned to its original position to be re-filled.

Pressing cycle is carried out at temperatures up to 410°F., while as much as 750 p.s.i. board pressure is applied hydraulically by an Oilgear variable delivery pump at oil pressures up to 2700 p.s.i. The pump is direct driven by 150 h.p. Life-Line Westinghouse motor. Pressing cycles run to about 10 minutes for ⅛ in. panels and 15 minutes on ¼ inch board.

Humidifying the Panels

Condensate from press-heating steam is trapped off to condensate tank and pumped back to boiler house. Water vapors driven off from the wet mat during pressing are collected in a Northwest Copper Works hood and drawn off through roof vent.

From the unloader, the molded sheets move singly to a conveyor where the boards are removed from the screens and carrier plates and routed to a humidifier, the plates and screens transferring to conveyor leading back to vacuum transfer to again receive wet mats preparatory to pressing.

American Manufacturing Co. equipment, except for pressing, performs handling and transport of wet mats, boards, screens, and carrier plates from the point where wet mats are received from the speed-up rolls behind wet-saw to the humidifier charging facilities, at which point equipment manufactured by Industrial Air Co. of Boston, Mass., equipment takes over handling and processing.

The hardboard panels move onto a tilting table in flat position, the table then tilts 90° to bring the panel to "on edge" position and the panel is conveyed from the table directly into a 48 ft. diameter Industrial Air humidifier where the panels, still on edge, remain for 3 to 4 hours in moist atmosphere to bring moisture content to 5 to 7 per cent. While in the circular-shape humidifier the panels move in merry-go-round fashion at very slow rate of travel and are ejected through narrow opening of the humidifier housing when reaching point 180° from point of entry.

The humidifier, equipped with Foxboro recorder-controller for controlling temperature of entering hot air and recording dry-bulb temperature and controlling amount of entering steam and recording wet-bulb temperature, has capacity for holding 240 panels. Panels emerge from the humidifier to another tilting table and return to flat position for delivery to Logan mobile conveyor which transports the panels to feed table of Mereen-Johnson trimmer

(Concluded on Page 197)

Hardboard plant of Oregon Lumber Company, Dee, Oregon. Size 92 x 480 feet. Arch Teco roof trusses were prefabricated and assembled and erected at building site.

with permanent, economical timber trusses

This building is a working tool which frees production from the strait jacket of obstructing posts. Open floor space permits machinery to be placed where it operates most efficiently. There is plenty of room for materials handling equipment to operate freely, so that manpower may be more productive.

Using timber trusses of Timber Structures, Inc., buildings like this are erected quickly, economically and for long-time service. Available in any desired span or length; roof may be arched, flat, sawtooth or monitor. Hoists, monorails, craneways and air conditioning units may be provided for in designing the trusses.

Your consultation on proposed plant buildings is always welcome. For further information see your nearest Timber Structures representative, or write for booklet, "Industrial Buildings", which gives details of these permanent, economical structural units.

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Look into a
MIXED CAR
Avail yourself of the numerous un-
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MARK
CANADIAN WESTERN LUMBER COMPANY LIMITED
FRASER MILLS, BRITISH COLUMBIA

STEPPING UP THE EFFICIENCY OF PLYWOOD PLANTS

MILLS INSTALL NEW SYSTEM OF OVERHEAD GRADING LIGHTS

More than a dozen west coast plywood plants have installed the system of overhead grading lights developed recently at the laboratory maintained by the plywood manufacturers, in Tacoma, Wash.

This overhead grading light is the latest of several units developed over the past five years by the manufacturers' industry trade association in an effort to provide a light at the sander that will make face defects readily discernible to the grader.

In the course of the development, the engineers found that a concentrated beam of light directed across the face of a panel (side-lighting) will bring out many defects such as rough or broken grain, defective patching, sander defects, defective edge glueing, blisters, etc. Many of these are ordinarily overlooked when graded under conventional fluorescent tubes or incandescent bulbs.

Side-lighting with a directed light source brings the defects into bold relief. Sander graders viewing the grading lights for the first time put it another way:

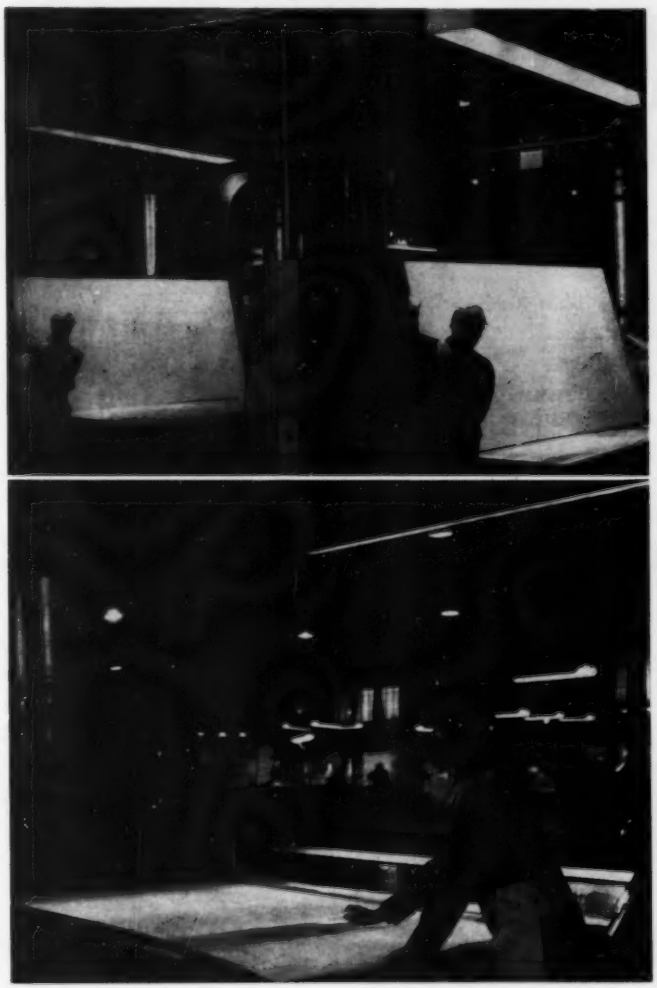
"You don't have to look for the defects—they jump right out at you."

The newest unit consists of a 9-foot box containing six 150-watt, 120-volt projector flood lamps. The unit is placed parallel with the length of the grading table on which the panels are graded. This way, the spread of light is sufficient to illuminate a 4 x 8-foot panel as it lies flat on the table. Side-lighting is obtained by turning the panel on edge and overserving both faces under the overhead beams.

Another system is in use where two mirrors are installed on both sides of the table on the far side of the sander. When the light is directed to the mirror, it reflects across the face of the panel as it lies flat on the table providing the side lighting.

Most mills, however, prefer the overhead side-lighting.

A demonstration and blueprints of the installation may be obtained from Douglas Fir Plywood Association.



Above: Latest lighting system for sander graders developed at plywood manufacturers' laboratory in Tacoma has been installed in more than a dozen plants. Operators say grading light "make defects jump right out at you." Side-lighting is obtained by turning panel on edge. Below: Earlier version of grading lights had mirrors installed at side of table to throw side-lighting across panel face when panel lies flat on table. Grading lights shown above and in other photo are installed at Puget Sound Plywood, Inc., Tacoma.

Showing the third man in background involved in the skinner trim-saw process. Note Matthews roller conveyors which convey the stacked panels by gravity.

The two-man operation at the Globe trim saw accounts for two-thirds of the man-power needed to operate this skinner saw combination.

A THREE MAN SKINNER-TRIM SAW UNIT.

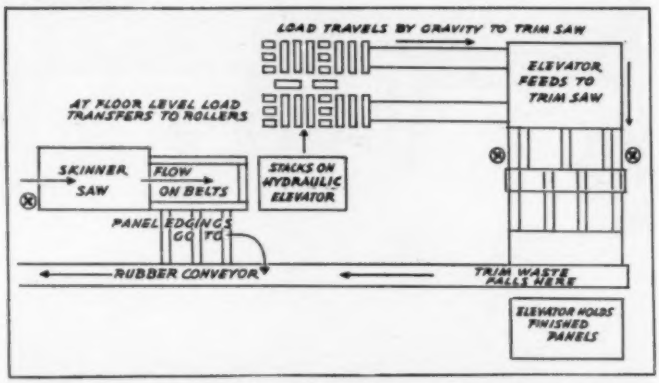
Frank Smith, general manager of Mt. Baker Plywood, Inc., Bellingham, Washington, is the designer of a skinner-trim saw combination unit —which, thanks to three husky workmen and the well-thought-out placement of elevators, roller and rubber conveyors—is really pushing out plywood panels.

The key man in this three man operation is the skinner saw operator. He first feeds the panels through the Globe Skinner onto an elevator that descends to floor level as its load grows. At this point the load is transferred to a set of roller conveyors, installed by the Mathews Conveyor Company of the West Coast, San Carlos, California. A special Hymatic air cylinder operation at this point lifts this load slightly until it begins to slide by gravity toward the trim saw elevator.

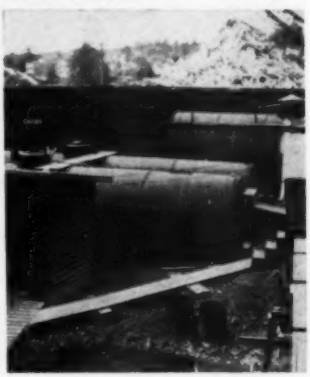
There are two men at the Globe trim saw who take the panels off this elevator, feed the panels through the trimmer, and onto a third elevator that holds the finished panels.

Frank Smith, designer, and Frank Abbott, Mt. Baker superintendent, think highly of this three-man operation, and they credit it with being a key point in their overall production schedule.

The Mt. Baker plant is using the new carbide tipped saws in several operations. The plant Skilsaws are all carbide saw equipped; and both the skinner and trim saws use this new carbide tipped equipment. According to Superintendent Abbott the carbide tipped saws used in the skinner and trim saws have been in service four months without attention. They were sold through Tad Dowling of Chehalis, Washington.


LOAD TRAVELS BY GRAVITY TO TRIM SAW
ELEVATOR FEEDS TO TRIM SAW
AT FLOOR LEVEL LOAD TRANSFERS TO ROLLERS
SKINNER SAW
FLOW ON BELTS
STACKS ON HYDRAULIC ELEVATOR
PANEL EDGINGS GO TO
RUBBER CONVEYOR
TRIM WASTE FALLS HERE
ELEVATOR HOLDS FINISHED PANELS

Floor Plan of the three man Skinner saw unit Mt. Baker Plywood Co., Bellingham, Wash. Stars (★) indicate position of the three men.



Another plywood plant that has installed large glue storage tanks is the Walton Plywood Co., Everett, Wash. Such facilities enables the company to obtain its glue in tank car quantities. Note tank car in right background.

270,000 ACRES

Tree-growing lands owned, or being managed by Simpson Logging Company, assure a long-time supply of logs to feed its mills and factories. In addition, Simpson's 100-year sustained-yield forestry agreement with the U. S. Forest Service involves getting the most from every acre and intensive utilization of wood from every log.

TWO BIG PLYWOOD PLANTS

Simpson's newly enlarged Olympic plywood plant at Shelton is pictured at left, center, and illustrated below is the Simpson plywood plant at McCleary. These modern plants are integrated with Simpson Logging Company's extensive logging operations, sawmills, door factory and wood fiber plant. These factories contribute to the stability and strength of a large segment of important areas in Washington State and in Northern California.

Assuring long-time supply of

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Simpson Douglas fir plywood is manufactured in the complete range of stock sizes, interior and exterior; it is trademarked, and carries DFPA grademarks for your protection. Other Simpson products include fir, hemlock and redwood lumber, fir doors, insulating board products, acoustical materials and hardboard.

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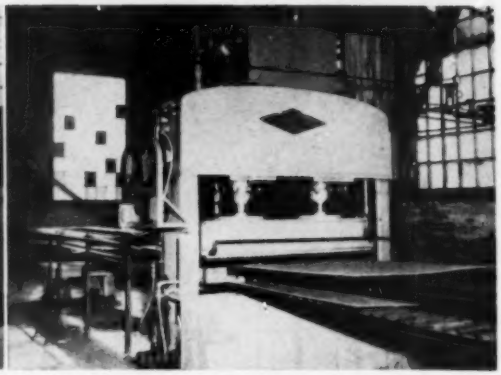
Plywood panels scarfed by Lamb-Grays Harbor scarf jointer preparatory to gluing and pressing.



Curing scarfed joints of panels in double opening Lamb-Grays Harbor scarfing press equipped with Speedway roller tables.

ADDS SCARFING DEPARTMENT

Within the past couple of months Vancouver Plywood Co. enlarged its production facilities by installing a scarfing department at its Vancouver, Wash., plant. This addition enables Vancouver Plywood to produce panels of any desired length and in any of the standard thicknesses and grades.

The scarfing department was laid out with view to obtain extensive production flexibility. Storage space between scarf jointer and lay-up table facilitates continuous-flow production or independent operation of either the scarf jointer or scarfing press. The use of plywood buggies for transport of scarfed panels within the department provides flexibility between the manufacturing components.

Production equipment consists of the following: Lamb-Grays Harbor Co. traveling-bed scarf jointer equipped with Haywood specially-designed carbide-tipped solid wing-type cutterhead, said to be the first successful installation of this type in the industry; a Lamb-Grays Harbor double-opening 16 by 66 in. scarfing hot press with attached Speedway lay-up and outfeed roll conveyor tables fabricated at the plant to design developed for this particular installation by key personnel of Vancouver Plywood—J. B. Power, manager; Jack O'Brien, superintendent; and Charley Carlson, master mechanic.

The Lamb equipment, manufactured by Lamb-Grays Harbor Co., was purchased from Tallman Machinery Co., Inc.

Processing machinery in the scarfing department is laid out in shape of an "L," the scarf jointer near the charging end of the lay-up table. Panels, fed to the jointer by operator working at infeed side of the machine, are carried on traveling-bed past the cutterhead, thus scarfing the leading edge to a smooth, sloping face, the processed panels removed by offbearer and stacked on buggies. The unusual cutterhead uses four carbide-tipped knives which make smooth scarfing joints at high speed without getting shaving printing or pull-outs.

Behind the jointer, scarfed panels are placed in one of two piles—on one they are individually positioned with scarf tip of upper panel coinciding with scarf shoulder of preceding panel, thus forming a smooth receding face for application of glue; on the other buggy pile the panels are stacked with ends and edges even.

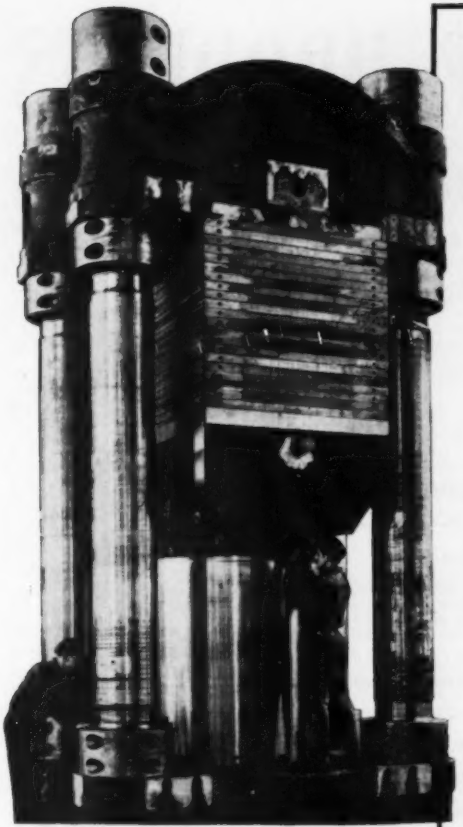
At this operation, buggyloads of scarfed panels go from jointer either directly to lay-up table for jointing and pressing, or into storage.

The lay-up table of the double-opening press are two-decked. Scarfed panels on lower deck are brought in line against a straight edge, joint lapped and stapled. The same procedure follows with panels on the upper deck. Then the lapped and stapled panels on both decks are ready for pressing. The lead end of each is lapped over the panels already in the press.

With completion of curing cycle, the press automatically opens, ready for removal of the cured panels and recharging for pressing, the two phases carried on simultaneously. Operators grasp the panels at overlap and roll both the cured and readied panels forward, bringing laid-up joints into the press and discharging the cured-joint panels onto outfeed rolls. Completed panels are then stacked on buggies pending sanding and shipping.

On continuous production basis, this department can be operated by four men; two carrying on the scarf jointing and the other two laying up and pressing the panels. If, however, current requirements do not call for continuous production, scarfing can be carried on by two men who subsequently either lay up and press the panels or store the scarfed stock.

Here is the new "twin" installation of Yates-American sanders recently made at the Tacoma plant of Puget Sound Plywood, Inc.



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•

Strain-rod Design Or One-Piece Steel Armor Plate Frame For Uniform Pressure on Plate Area

•

Completely Automatic Controls For Pressure, Temperature And Time Sequence

•

Two-pump System Permits Rapid Closing and High Pressures. Automatic Controls Limit Pump Wear to About ½ Hour in 8 Hours of Press Cycling

•

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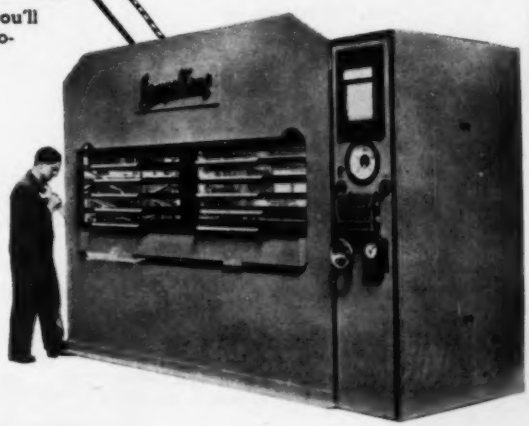

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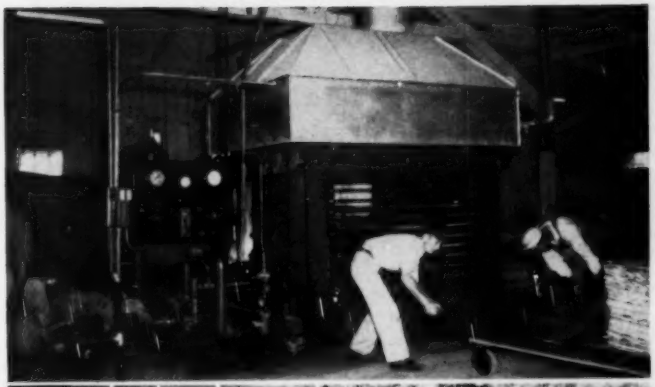
Southern Plywood Plant Keeps Modern

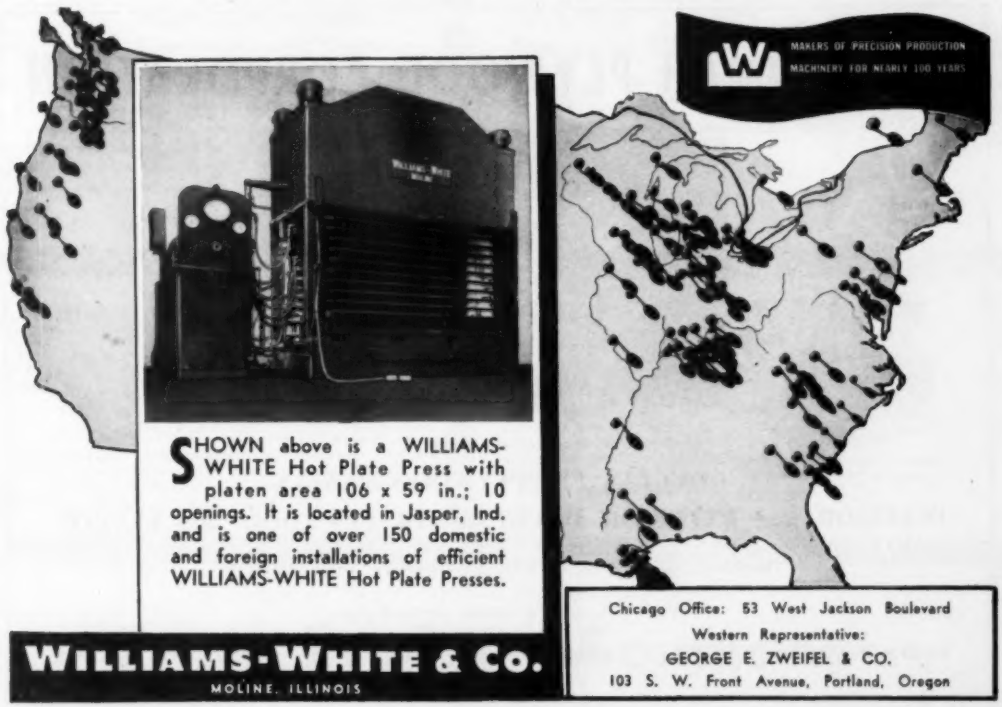
Having previously effected an efficient layout of plywood producing equipment, the Valdosta Plywoods, Inc., Valdosta, Ga., during the past year has gone ahead in rounding out its manufacturing plant by a sprinkler system, new steam vat, new power house, and other installations.

The company originally acquired the Nichols Veneer Company, proceeding to add a modern plywood plant to the enterprise. In producing furniture stock, the lavout of equipment is devised for veneer in process to move up the left hand side from the Coe drier set at right angles to the new unit, with finished stock flowing down the other. Stock-piling is at center. Lift pallets used are in different colors to denote working status of their loads. Grading is done before gluing and all parts trimmed to size lest glue be wasted on trimmed portions.

The plant is completely floored in concrete; the interior painted white; and a public address system provided. The office interior walls are done in plywood squares of the various hardwoods. It is air conditioned, but large windows in the partition



Top: The 50 x 75 inch 10-opening Plycor hot press, at Valdosta Plywood, Inc., with Foxboro instruments. Lower, left to right: A. H. Noble, general superintendent; L. B. Hiers, plywood superintendent; Don E. Nichols, company president. Right: new brick steam chambers. Each one is 30 feet long, 7 feet wide and 6 feet high. Tight doors are from Moore Dry Kiln Co.



SHOWN above is a WILLIAMS-WHITE Hot Plate Press with platen area 106 x 59 in.; 10 openings. It is located in Jasper, Ind. and is one of over 150 domestic and foreign installations of efficient WILLIAMS-WHITE Hot Plate Presses.

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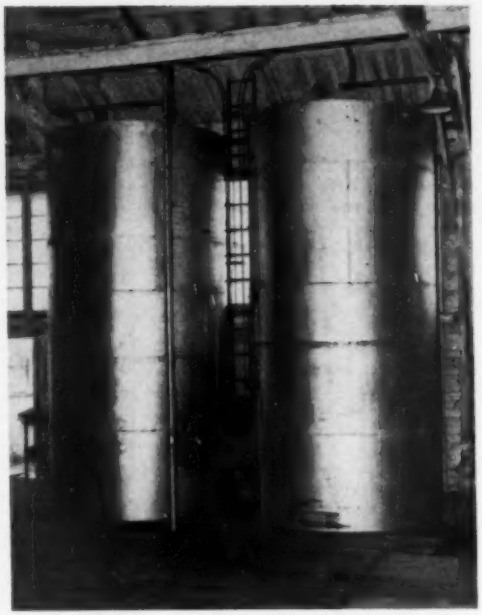
walls permit visual access to working operations.

Recently installed were two glue tanks for bulk handling of this vital material. Glue is forced to the spreader by compressed air. The installation of sprinklers was made possible by a nearby elevated water tank. The new power house is equipped with modern fuel handling and new hog with automatic feeding and boiler control. The new steam chambers are of brick, 30 feet long, 7 feet wide and 6 feet high. The tight doors came from Moore Dry Kiln Co.

Don E. Nichols, company president, says the improvements were effected to keep up with the southern hardwood plywood industry, which has moved forward both as a group and individually. The industry has moved toward quality, he said. The Association's laboratory has proven to be a most progressive step. It has established the fact that the majority of producers have been furnishing a quality glue line; and has contributed to a better knowledge of and use of glues.

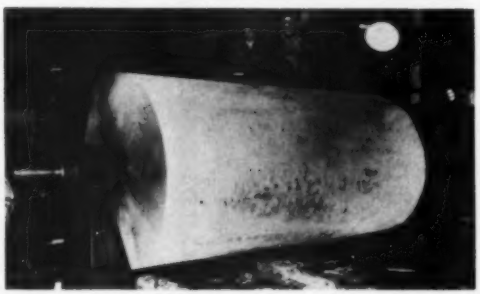


Bulk storage of plywood glues is the latest innovation at the Bellingham Plywood Corporation plant at Bellingham, Washington. Here illustrated are two new welded steel storage tanks — each 10,000 gallon capacity — recently installed at Bellingham Plywood. According to plant manager Arthur Olson this bulk installation permits savings by buying glues in tank car quantities and also through the elimination of excessive handling costs. The glue is piped to the mixers. The tanks were fabricated and installed by Weldcraft Steel of Bellingham.

Southern Plywood Association

Enlargement of the testing laboratory and general office space has been effected by the Southern Plywood Manufacturers' Association, according to Clarence W. Dietterich, managing director, who advises the headquarters have been moved to 65 Peachtree Place NE, Atlanta, Ga. The offices were formerly located at 728 West Peachtree Street, NW. The removal was effected February 1.

MULTNOMAH PLYWOOD CORPORATION



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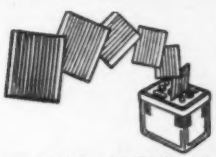
"EVANEER" QUALITY Douglas Fir Plywood

EVANEER

High on the list of quality wood products coming from Evans is "EVANEER" Douglas fir plywood —100% hot-processed. The Coos Bay plant uses the latest modern plywood equipment for the production of both interior and exterior grades in standard panels.



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LUMBER and Lumber Products

The Evans plant at Coos Bay, Oregon, produces a variety of standard and special wood products from Douglas fir and Port Orford cedar to meet rigid buyer specifications. These include veneers, dimension stock, railroad ties, cable reel logging, shipping blocks for automobiles, mouldings and construction lumber.

DIRECT INQUIRIES TO NEAREST OFFICE

Evans Products Company

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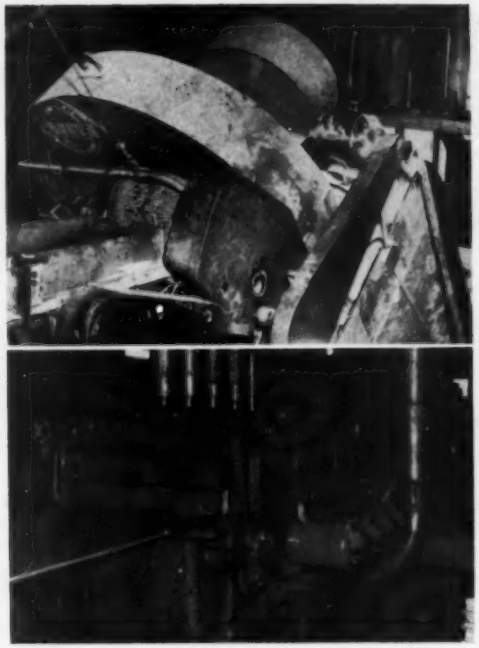
New Equipment at California Plant

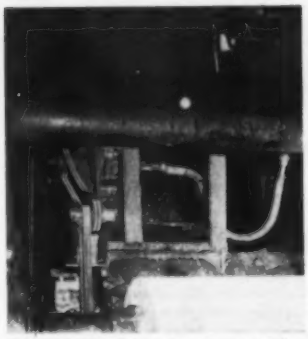
A number of improvements have been made at the Calpella, Calif., plant of the Coast Plywood Manufacturing Co., according to W. S. Henson, resident manager.

The company has installed a new Francis 4 x 8 cold press. Three sections have been added to the Coe dryer, and a new Yates-American sander has been installed.

To utilize waste from the lathe, a Sumner Iron Works veneer chipper has been added to the plant's equipment.

Sumner veneer chipper, Yates-American sander.





Gardner-Denver 7-h.p. air motor mounted on the pressure roller bar on the 100" Coe lathe at the Willits, Calif., mill of the Industrial Plywood Corp.

Air Motor Drive for Pressure Roller Bar

An interesting use for a Gardner Denver 7 h.p. air motor is found in the Industrial Plywood Co., Willits, Calif.

Here the 7 h.p. Gardner-Denver air motor is used to drive the pressure roller bar on the 100" Coe lathe. It is reported by R. H. Leander, mill superintendent, that the air motor replaced an electric motor in this particular spot, and is giving excellent service.

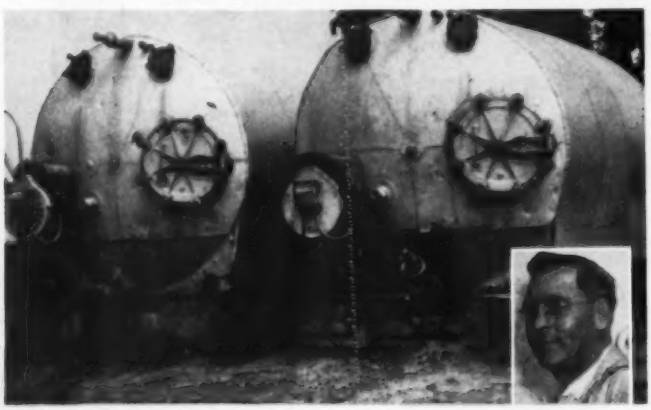
Air for the motor and other uses around the plant is provided by a Gardner-Denver compressor.

Installs Glass Lined Glue Storage Tanks

An efficient installation coming into favor among hardwood plywood plants in the southeast is the installation of tanks and handling of glue in bulk quantities such as found at Southern Plywoods, Greenville, Fla. This company obtained two 32,000 gallon each insulated glass lined tanks formerly used for milk in a New York state dairy. The first advantage of the tank is that the glue is 1¢ per pound cheaper than in drums; it does not require investment in warehouse space as when drums are involved; labor in receipt at plant and subsequent handling to the glue platform is not "messy".

Delivered in a tank truck, the conveying vehicle has certificate of tare (net) and gross weight. The glue is metered into the tank; metered out at the plywood plant. It takes but a half hour to deliver a tank truck full. When the glue is needed, it is agitated an hour ahead of time; is pumped by centrifugal installation with electric motor to the platform.

In addition to the tank installation, Southern Plywoods also had increased efficiency by putting in concrete floors, a concrete block wall, and $80,000 worth of new equipment. Julius J. Stern is principal; J. O. Cook, Sr., superintendent; J. O. Cook, Jr., sales manager.



Two 32,000 gallon insulated glass lined glue tanks at Southern Plywoods, Greenville, Fla. Inset: Superintendent J. O. Cook, Sr.

Promoted

R. E. Miller, until recently afternoon foreman of Weyerhaeuser Timber Co. plywood plant, Longview, Wash., has been promoted to general foreman, filling vacancy resulting from appointment of Willard Burrell as superintendent of the company's new plywood plant at Springfield, Ore., which is expected to start production in May.

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...standard for the PLYWOOD INDUSTRY

Wherever finished plywood is being made, you'll find the Yates-American S-800 Roll Feed Sander on the job! It is a rugged machine that will work for you 24 hours a day . . . day in and day out! A sturdiness, here-to-fore unknown in drum sanders is built into the S-800 to fit it to the heavy sanding work which the ordinary machine is incapable of performing. Operation is easy, controls readily accessible, adjustments speedily made for a minimum of down time. Both sides of the panel are sanded at one pass through the machine. Write for complete information on sanders to fit your needs.

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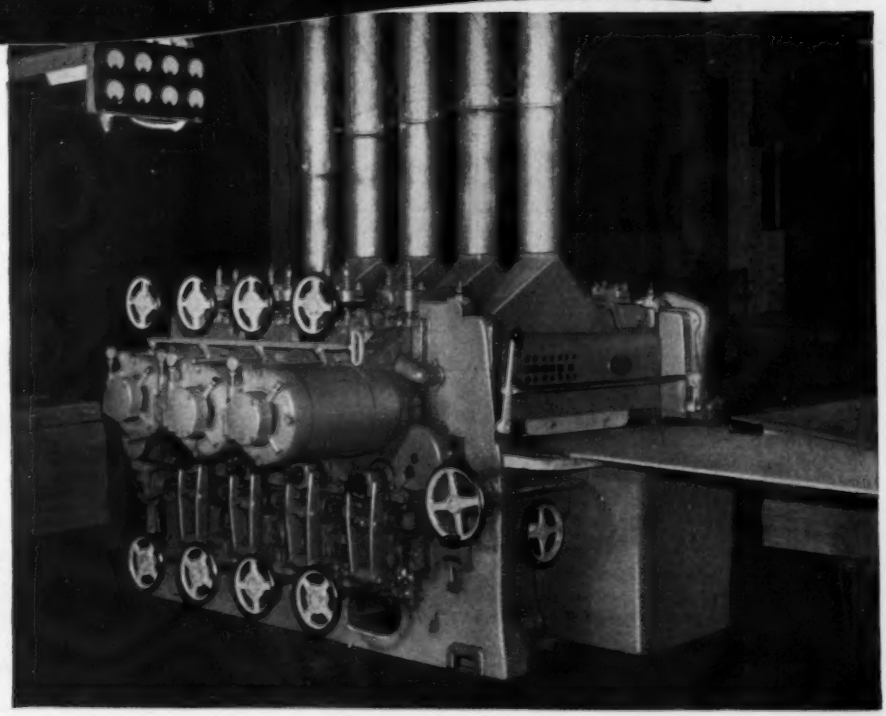

Top: Decking covered an area 105 by 215 feet. Joints were set in spactial mastic called Derby's Kilnseal. Center: Next joints were taped with membrane impregnated with asphaltic compound prepared by the same company. Bottom: Finish roof consisted of just two coats of KilnKote sprayed on. Makers claim roofing system is equal in quality to conventional roofing.

UNIQUE PLYWOOD ROOF

When Puget Sound Plywood, Inc., Tacoma, Wash., enlarged its plant last summer, plywood was used in the roof decking as the foundation for a unique new finish roof system estimated to be half the cost of a conventional three-ply built-up roof.

Plywood, ⅝-inch thick, was first laid down across 2x12 purlins 24 inches o.c. supported by 105-foot trusses spaced 20 feet apart. Plywood was laid down with vertical joints staggered and covered an area 215 feet by 105 feet.

The finished roofing system was developed especially for use over plywood decking on large buildings. Panel edges were first well sealed with Derby's Kilnseal, a mastic composed of gilsonite and oil reinforced with asbestos fibers. Then panel joints were taped with a membrane saturated with an asphaltic compound. The finished roof consisted of two coats of KilnKote sprayed over the roof area.

How to Make Plywood Plants More Efficient

Frank H. Morris, manager Hardell Plywood Company, Olympia, Wash., thinks that a cycle of insecure and unprofitable business would cause the management of plywood plants to give thought to making their operations more efficient. "What is needed" says Mr. Hardell, "is forceful creative thought from the top down rather than has been the lot of the last few years, of bringing out improvements from the bottom up.

"Specifically, my opinion today is identical to that of ten years ago when an observation was made that fast, high quality and semi automatic patching equipment would go a long way to stretch our dwindling supply of high grade logs. Waste, too, is a serious problem and should be given more attention than has been the case."

New Hardboard Mill Ready in June

Progress on the new hardboard plant, of Coos Bay Lumber Co., is satisfactory, with the operating date now set at some time in June . . . Their chipping plant is completed, but, is awaiting operation for the hardboard plant.

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Use Derby *KILNKOTE* For Interior Surfaces . . .

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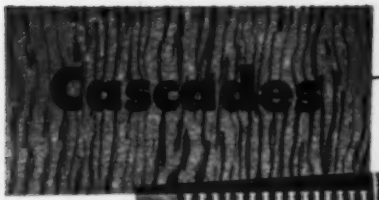
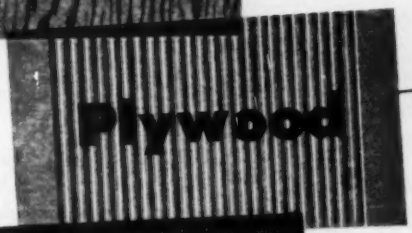


Manufacturers of

DOUGLAS FIR PLYWOOD



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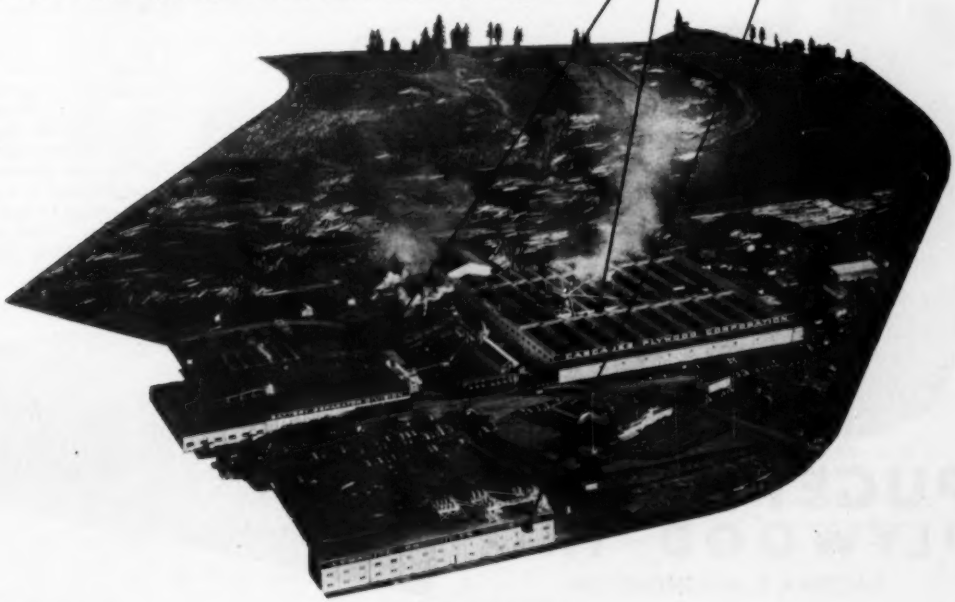
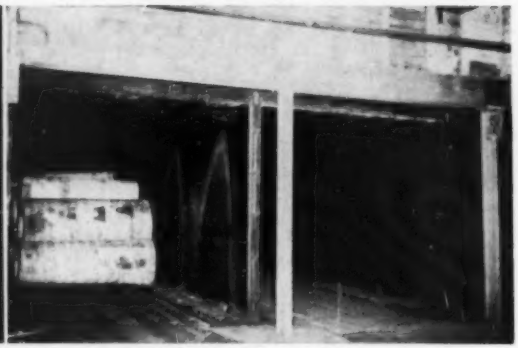


Five ton Ross fork lift truck taking bolt from vat to Coe lathe.



Steam vat with partial charge of bolts to be steamed.

MECHANIZATION CUTS COSTS AND INCREASES PRODUCTION

Almost complete mechanization and the utilization of two Ross five ton fork lift trucks in the veneer bolt steaming section of the ponderosa pine plywood mill of Fruit Growers Supply Co., Westwood, Calif., has resulted in savings of about 40 percent, and greatly increased production.

Fruit Growers Supply makes nothing but ponderosa pine plywood in this up-to-date plywood mill, which is operated in conjunction with its other lumber manufacturing operations.

Not long ago the company, under the direction of Frank Cashdollar, chief engineer, revamped the entire bolt steaming set-up, mechanizing it to a great extent, and increasing production with notable savings.

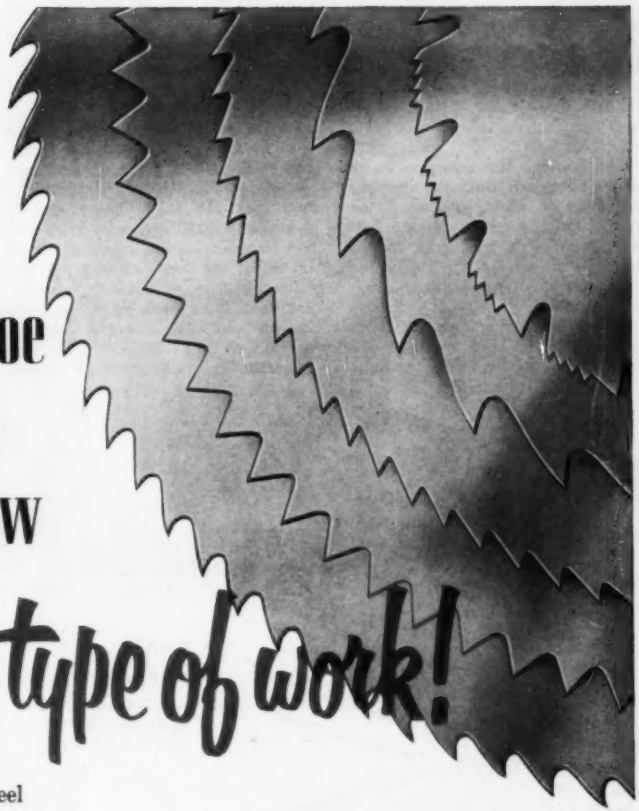
From long experience officials of Fruit Growers found that it was advantageous to steam ponderosa pine peeler bolts before peeling them. Steam from 24 to 30 hours in • 160°F. steam softens all the wood fibres, and makes the bolts easier to peel, thus keeping the knives sharp longer. Steaming is also said to aid

PSP.. bigger and better

● One of the largest blocks ever peeled in the Douglas fir plywood industry is shown here mounted on a 130 x 110-inch Coe lathe in the Puget Sound Plywood plant at Tacoma, Washington. Original block was almost 11 feet in diameter . . . and contained 6200 sq. feet.

PUGET SOUND PLYWOOD, INC.

TACOMA 2, WASHINGTON



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Head Saws, Rip Saws, Cut-off Saws,
Edgers, Bolters, Trimmers,
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in making a smoother piece of veneer and to aid in cutting knots.

Still another advantage of steaming peeler bolts, according to E. Bork, plywood plant superintendent, who has been with Fruit Growers Supply and previous to that with Red River Lumber Co., since 1925, is that because the logs are warm and the fibres soft, the lathe operator can shift the knife, and vary the thickness of the cut to get the best values out of a bolt, just like a sawyer manipulates a saw log on the carriage, without removing the bolt from the lathe.

Another advantage in steaming bolts is that in cold weather, although the logs from which the bolts can shift the knife, and vary the bolts are steamed they are thoroughly thawed out.

In revamping the steaming department, the old wooden vats were removed and six vats with 8" concrete bases, walls of concrete blocks, and a concrete roof were installed. These new vats have sides and roof lined with tile. They are 11'4" wide, 11' high, and 110' long. They hold an average of 40M' of peeler bolts per vat. Production has been increased by laying the bolts one on top of the other, instead of having a single course of bolts, each on a car, as in the old vats. The floors of the vats are set at a 1° angle so that hot water can return to the reserve tank, where it is kept warm by condensate.

As mentioned above two 5-ton Ross fork lift trucks are used to carry the bolts from the Globe barker to the vats, and from the vats to the 130" Coe lathe. Bork reports that the lift truck method of handling bolts is almost twice as fast as the old crane and rail system now done away with.

From the Globe barker the bolts are placed on to a No. 113 Rex chain driven through a Pacific Western speed reducer which takes them to a roll way. The barker operator's helper has a lever which when pulled, throws up a bumper, and when a bolt hits the bumper the chain stops.

The bolts are removed from the Rex chain by means of an air activated kicker, which kicks the bolts off on to a gravity roll way, where they roll down to where they are picked up by one of the Ross fork lift trucks.

The doors of the vats are easily operated by one man, since they are fitted with counter-weights and are made of 12-ga. aluminum.

The Coe Mfg. Co. recently installed a six-deck tray system at Fruit Growers. Two decks lead to a 124" Coe lever clipper, and the other four feed a new 112" Elliott Bay semi-automatic clipper.

A St. Joseph lathe peels the 13" cores from the large lathe, down to six inches.

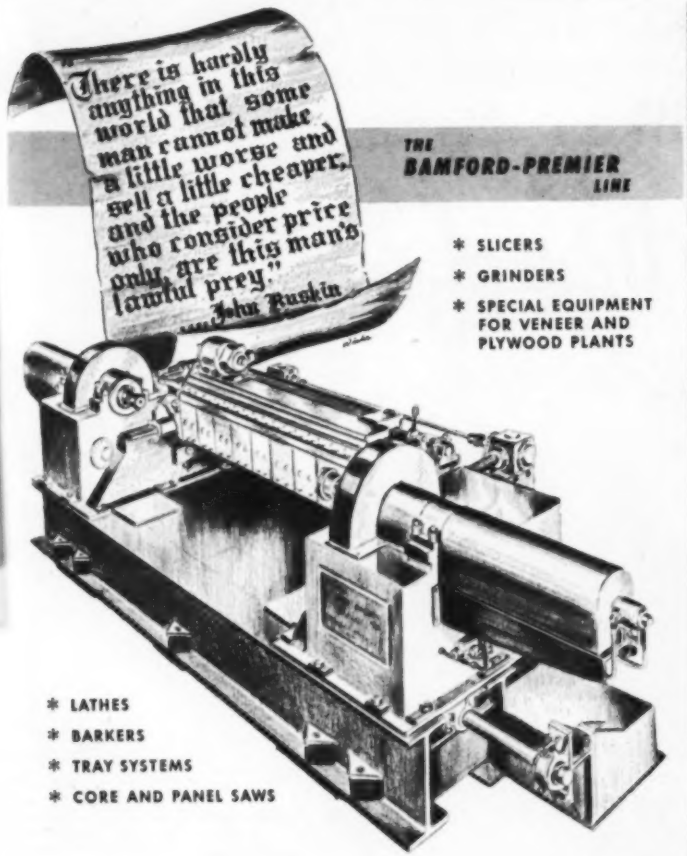
Bork estimates that the trays and clipper system has increased the production of the plant about 35%.

First Plywood Plant for Los Angeles

A new plywood and veneer plant, reported to be the first manufacturing plant of this kind in the Los Angeles area, went into production in February. The International Veneer and Plywood Corp., with Charles Strait as president, is specializing in mahogany plywood and veneer, chief source of supply being the Philippine Islands where Strait put into production the first plywood plant in that area. Fir from Northern California is used in supplementary veneer manufacture.

John McMillan, well-known in plywood manufacturing in the Northwest, is plant superintendent. Z. S. Beiser is vice president; Tom MacDougall, sales manager; and G. E. Keiter is secretary-treasurer. Sales of veneer and plywood will be made under the name of Interply.

The plant is located in the rapidly-growing industrial district near the International Airport in Los Angeles.


There is hardly anything in this world that some man cannot make a little worse and sell a little cheaper, and the people who consider price only, are this man's lawful prey."
John Ruskin

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* BARKERS
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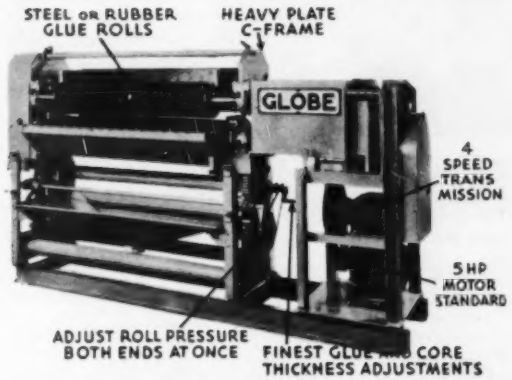
Globe Machines

for the Plywood Industry


STEEL or RUBBER GLUE ROLLS
HEAVY PLATE C-FRAME
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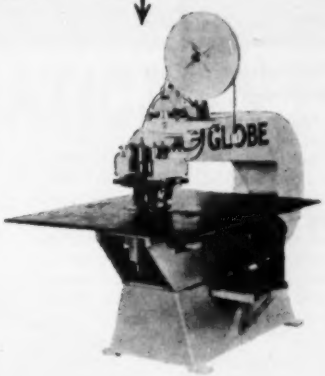
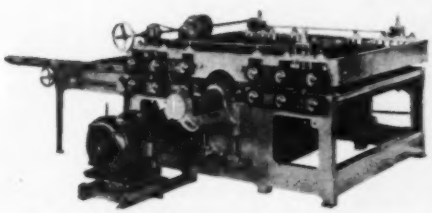
ADJUST ROLL PRESSURE BOTH ENDS AT ONCE
FINEST GLUE AND CORE THICKNESS ADJUSTMENTS

Most **uniform** and **accurate** Glue Lines. Unvarying results over long periods without attention.

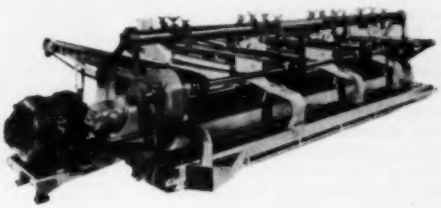
GLOBE GLUE SPREADERS

THE GLOBE TAPING MACHINE for applying tape to the jointed edges of veneer, while a new addition to the line, is doing a good job in the industry.





THE GLOBE High Speed Heavy Duty Panel Rip Saw or Skinner shown at the left is standard equipment in most plywood mills. Built up to a service, not down to a price, it stands up for years under long hours of punishing production.



The GLOBE Panel Equalizer shown at the right with sawdust collector is the fitting companion to the GLOBE Skinner. Wherever used it stands up under severe operating conditions that break down machines built to meet a price.

JOINTERS (With or Without Glue Rolls)

SHIM CUTTERS
DEFECT CUTTERS

HOT PATCHERS
PATCH CUTTERS

CORE SAWS

BARKERS (Rossing Head and Compression Head—Roller or Scraper Types)

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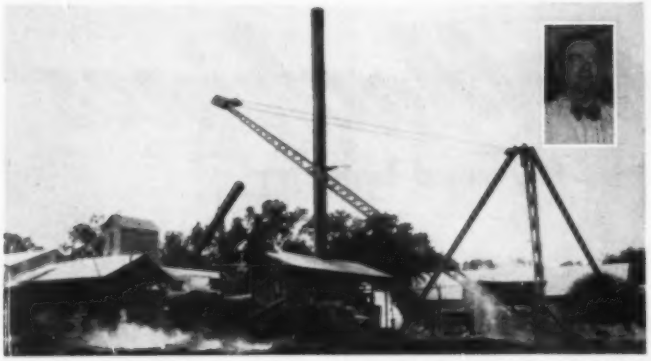
Pioneer Builders of Precision Plywood Machinery



This steam driven, ¾-inch drag line equipped 70-foot boom stiff legged crane provides a highly flexible service in handling logs from unloading through the boiling vat to the log deck. Inset: H. H. Hinote, president and general manager of Triple-H Plywood & Veneer Co.

Flexibility in This Southern Plant

Flexibility in handling of logs from time of receipt to delivery to the lathe is one of the features built into the Triple-H Plywood & Veneer Co., by H. H. Hinote, company president and manager. In utilizing a 70-foot steam powered ¾-inch drag line American stiff-legged boom to unload logs, place them in reserve, move them to the sunken boiling vats, and then place them on the log deck, Mr. Hinote borrows from the sawmill industry in which field his father was engaged. This also extends to the use of steam up to the dogs, and utilization of a 6-foot Simonds inserted tooth deck saw driven by an International Harvester 60-HP industrial diesel motor.

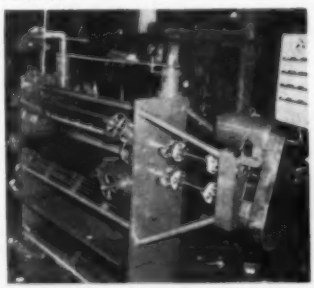
When the boiled log reaches the deck saw, it receives expert attention, being cut into sections to yield maximum quality according to whether they can be sent through a 36-inch, 66-inch or 88-inch Coe lathe. This flexibility in cutting has been obtained through an improvement program completed in 1951 that involved the erection of two buildings, the installation of a 9-section Coe dryer, the 88-inch Coe lathe, two Coe clippers, a new Coe grinder, enlargement of veneer lines in general. The program resulted in increasing capacity by 30 percent. Prior to establishment of the company bearing his initials, Mr. H.H.H. was associated with a large crate and box company for 22 years. The company is a member of the Southern Plywood Manufacturers' Association.

Improvements at Multnomah Plywood

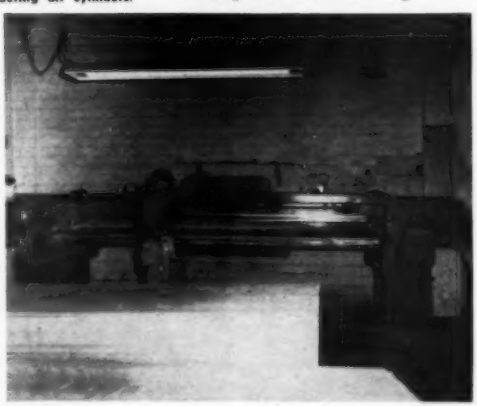
The Multnomah Plywood Corporation is completing a number of improvements, such as the construction of a big new chipper plant using a No. 66 Sumner chipper with automatic loaders. They are also adding a new 4 ft. Coe core lathe with all the necessary equipment and a new Ederer charger together with a new Williams-White 20 opening hot press. Their big new power plant is now completed.

This puts the Multnomah Plywood Corporation in a position to supply their interior and exterior Douglas fir plywood as well as plyron.

W. S. "Bill" Henson, an experienced plywood operator, has joined the organization as plant superintendent.



One of the newest type glue spreaders being sold in the plywood industry is the McFall Glue Spreader. Sales are handled by the Tallman Machinery Company of Seattle. One of the main features of this machine is the fact that tensions on the glue rolls and the doctor rolls are controlled by double-acting air cylinders.



One of the newest pieces of equipment at the Seattle plant of the U. S. Plywood Corp. is the new Mattison 303 automatic stroke sander, manufactured by the Mattison Machine Works of Rockford, Ill. The sander, which is used primarily to sand flush doors and hardwood faced plywood, was sold through the Tallman Machinery Co., Seattle. According to Mattison engineers on the "303" the hydraulic system for the operation of the shoe is simple yet positive in action, providing smooth operation of sanding shoe the entire length of stroke.

Plywood in Small Size Panels

West coast plywood manufacturers began volume production of Douglas fir plywood in small sizes called Handy Panels last month in a move that has important ramifications for industrial buyers and users.

Aimed at meeting more closely the specific needs of many manufacturing operations such as sign shops and industrial wood working firms, it means that plywood will now be available in sizes more closely fitting their special requirements.

The new stock small sizes are being manufactured in both the outdoor type plywood with waterproof glue and the interior type.

Within each type, the small panels are offered in both the "one-side" and "two-side" grades in stock sizes 24" x 48" and smaller including such sizes as 24" x 44", 20" x 48" and 20" x 44".

Mississippi Has New State Forester

James W. Craig, consulting forester, Leavall Woods, Jackson, Miss., was named Mississippi State Forester, succeeding the late Albert A. Leggett, who succumbed to a heart attack while attending the meeting of the Society of American Foresters in Biloxi, Miss. Mr. Craig holds forestry degrees from Purdue and Syracuse. His supply service will be continued under the name of Forestry Supplies, Inc., Battlefield Station, Jackson 4, Miss., with Ben C. Meadows as president and manager.

Faster hard-facing... smoother jobs

because they're welded AUTOMATICALLY!

Tractor Rollers automatically hard-faced and ready for installation, untouched by hand operations. Note smooth, even beads.

The new STOODY Wires are adapted to all processes where suitable flat or cylindrical work is hard-faced.

No laps in deposits, no finish grinding, this hard-faced IDLER WHEEL is ready for duty direct from the welding machine.

These clutch and brakedrum faces were automatically hard-faced internally and externally with Stoody 107. They were then machined to a smooth surface for more wear resistance than new.

How to win the battle of parts shortages

Right NOW, when you're suffering from parts shortages, trying every way to keep equipment rolling... when new parts are tough to locate and tougher to buy... *This is the time to salvage your old parts with Stoody Hard-facing!*

Tedious? Not at all... you can get most parts hard-faced automatically in your own vicinity. You'll get 'em fast, you'll get 'em smooth... Best of all they come back to you with more life than factory-new parts—last twice as long and relieve the pressure for constant replacements. With all these advantages Stoody automatic hard-facing saves money, too.

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For more facts on automatic hard-facing with Stoody Alloys ask for a free folder. And if you're looking for a handy automatic hard-facing job shop in your vicinity, we'll gladly send you a list of competent shops.

"Imagine making a wood sandwich!"

TEASED ELMER, THE BORDEN BULL

It may have been a surprise to Elsie to find Borden's glues helping sandwich layers of wood veneer into panels that won't warp or peel but not to you in the forest products industries . . . Borden's chemical products are widely used for fabricating wood, metal, plastics and textiles in some of our largest industries. On the Pacific Coast, Borden's glues have virtually grown up with the pioneers in plywood, door, furniture and manufacturers of timber laminates.

NOW WITH HARDBOARD MANUFACTURE GAINING SO MUCH ATTENTION, BORDEN'S CHEMICAL DIVISION ON THE PACIFIC COAST IS READY WITH THREE PLANTS TO SERVE YOU AND A COMPETENT STAFF OF SALES AND SERVICE REPRESENTATIVES AVAILABLE TO DISCUSS THE APPLICATION OF OUR PRODUCTS IN YOUR PROCESSES.

Borden's

CHEMICAL DIVISION

WEST COAST OFFICES
6010 AIRPORT WAY
SEATTLE

Plants: Seattle; Springfield, Ore.;
Los Angeles, Cal.

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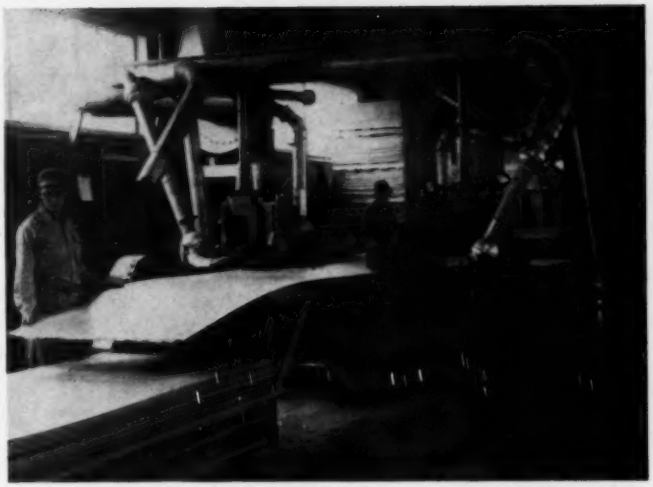
Precise Sizing of Hardboard

One of the major problems in the manufacture of hardboard involves the accurate sizing of the finished panels. The problem includes both the obtaining of precise control of dimensions and straight, square cuts. This problem has been successfully solved at the new hardboard plant of The Long-Bell Lumber Company, Longview, Washington.

The answer to the problem of accurate dimensioning of hardboard panels was the installation of a Greenlee Bros. Co. Double-End Tenoner supplied and serviced by the Tallman Machinery Co. of Seattle, Washington.

The Long-Bell plant includes considerable amount of new types of equipment developed by the company's research and engineering personnel to accomplish various specialized jobs in the "dry process" of hardboard manufacture. Selection of the Greenlee unit was arrived at after a decision made to incorporate the utmost obtainable in panel dimensional accuracy in plant equipment plans.

The panels move through the Greenlee machine on a specially designed chain, the panels being positioned by ball bearing, rubber-faced hold downs. The panels are cut to any size desired. An important advantage here with the Greenlee equipment is the absence of the problem of trim disposal. The trim is hogged by a tenon head and discharged into the blower system simultaneously with the cutting of the panel. Where a saw finish on the edge of the hardboard panel is sufficient, this operation is all that is needed. However, many plants, including that at Long-Bell, want a smoother edged panel or a patterned edge. In such cases coping heads are added at the rear of the machine, enabling the desired edge work to be



Sizing hardboard panels in plant of Long-Bell Lumber Co., Longview, Wash., with recently installed Greenlee Bros. Co., double end-tenoner.

PACIFIC FOREST INDUSTRIES

Exporters of Plywood

TACOMA 2, WASH., U.S.A.

WASHINGTON BUILDING

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EXPORT SALES ORGANIZATION
FOR PACIFIC NORTHWEST

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IN ALL INDUSTRIES
LUBRIPLATE LUBRICANTS
Reduce friction, wear, upkeep costs and power consumption . . . with Better Machine Performance

"IT'S THE GREASE FOR TOUGH OPERATIONS"
—says
McCULLOCH MOTORS CORP.
makers of the famous McCulloch Chain Saws

"Three years ago, when we first started building power chain saws, we tested all types and makes of lubricants for the Zerol gears in the transmission. One of the greases selected for long tough operation was LUBRIPLATE. Since that time we have produced thousands of McCulloch Chain Saws and we now more than ever recommend the use of LUBRIPLATE in our power tools."

John L. Ryde
Vice Pres. and Chief Engineer

LUBRIPLATE Lubricants are available from the lightest fluids to the heaviest density greases. There is a LUBRIPLATE Product best for your every lubrication requirement. Let us send you case histories of savings that others in your industry are making through the use of LUBRIPLATE Lubricants. Also packed in handy tubes for use in portable tools, guns, fishing reels, lawn mowers and household appliances.

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Newark 5, N. J. Toledo 5, Ohio
Dealers Everywhere . . .
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LUBRIPLATE *The Modern Lubricant*

done in the same operation.

In cases where it is desired to break up a panel into smaller sizes, multiple cutting units may be added, which will cut accurately down to nine inches.

The Greenlee machine at the Long-Bell hardboard plant cuts to a dimensional tolerance of within five-thousandths inch in eight feet. This creates an important extra value in the panel for sale in the industrial or retail markets.

The machine has two features of importance: (1) accurate sizing; (2) exceptional versatility in connection with accessories that can be added for the manufacture of patterned or scored panels. Changing from one panel size to another is almost instantaneous through the use of push-button automatic setworks.

Heads Hardwood Plywood Institute

M. C. McIver, president of the Penokee Veneer Co. and chairman of the board of the Splicedwood Corp., of Mellen, Wisc., has been elected president of the Hardwood Plywood Institute, national organization of plywood manufacturers. He succeeds William F. Durbin, of the Hoosier Panel Co., New Albany, Ind. F. S. Kuhn of the Southern Laminating Co., Memphis, was elected vice-president and Charles E. Close of Chicago was re-elected secretary-treasurer.

Newly-elected directors of the Institute for 1952 are: Fred G. McDonald, of the Picayune Veneer and Plywood Co., Picayune, Miss., Frank Isaacson, of the Jamestown Veneer and Plywood Co., Jamestown, N. Y., Charles Southgate, of International Fiber Board and Plywood Sales, Ltd., Gatineau, Canada, C. A. Kirn, of The Mengel Co., Louisville, Ky., and George Vehlow, of the Baldwin Plywood and Veneer Co., Gillett, Wisc.

B. C. Log Output at New All-Time High

Volume of timber (logs) scaled in British Columbia in 1951 set a new all-time record of 4,439,082,529 board feet, compared with 4,406,328,439 feet for the previous year. The performance is all the more remarkable in view of the two-months' shutdown of logging over a wide section of the coastal district during the summer owing to drought.

Nearly all areas showed an increase in production, probably the most pronounced gain being registered in the Prince Rupert district, due in large measure to the influence of loggers supplying Columbia Cellulose Co. at Watson Island.

Mack six-wheelers get you *out of the rough*

Rough terrain or hub-deep mud holds no terrors for Mack six-wheel trucks. You can count on these unfaltering Macks to take your loads "out of the rough"...to maintain steady, dependable schedules...because they have the unique advantage of Mack's *Balanced Bogie with exclusive Power Divider.*

With the Mack Power Divider, a non-spinning true differential, torque is divided between the two bogie axles and between the four driving wheels. Delivering torque smoothly and continuously without destructive shock in proportion to wheel traction, the Power Divider stops power waste through useless slipping and wheel spinning–keeps Macks moving where other trucks bog down.

If your present truck equipment is having a hard time because of hard going, it will pay you to investigate the benefits you get from Mack six-wheelers in unfailing reliability and uninterrupted production...greater profits through greater output at lower cost. Write or call your nearest Mack branch or distributor.

Mack Internally Power Divider

Mack TRUCKS

...last them all

Mack [illegible]—Los Angeles • Denver • San Francisco Seattle • Portland • Salt Lake City • Factory branches and distributors in all principal cities for service and parts.

In tough timber hauling Mack six-wheel trucks get you "out of the rough" with unfailing dependability. This Mack Model LMSW-L serves McMillan and Bloedel Company at Port Alberni, Great Central Lake, Vancouver Island.

Newly completed plant of Western Plywood (Cariboo) Co., Ltd., at Quesnel, B.C., which went into production last December. Photograph was taken from the north and it shows the Fraser River in background.

First Interior Plywood Plant In B. C. Now in Operation

First unit of what will eventually be one of the largest integrated forest industries in the interior of British Columbia was completed last December when the modern plywood plant of Western Plywood (Cariboo) Co., Ltd., went into production at Quesnel. It is the first plywood plant to be built in the province outside the coastal region.

Western Plywood Co., headed by John Bene, has been operating a large plywood plant near the mouth of the Fraser River for several years, and its expansion into the Cariboo district was with a view to making more economical use of the extensive stands of suitable peeler logs in that area.

The company is planning to build a $20,000,000 bleached sulphate pulp mill to produce 200 tons daily at Quesnel, and a forerunner of this development is the building of a sawmill there this summer at a cost of $240,000. These operations will be maintained in combination with the plywood plant, which cost $1,600,000, including woods equipment.

When in full production, the Quesnel plant's production is at the rate of about 36,000,000 square feet of quarter inch plywood on a two-shift basis, compared with Western Plywood's Vancouver plant's capacity of about 45,000,000 square feet. The company holds a forest management license in the Cariboo country extending over 80,000 acres, and it is planned to harvest the timber on a sustained yield basis. Fir, spruce, cottonwood and birch are abundant in this area, which has been logged only on a small scale in the past, and it is hoped gradually to increase the volume of hardwoods available for use at the Quesnel mill by a process of pruning and thinning and, where necessary, replanting.

Western Plywood Co. is the only company in British Columbia whose production includes hardwood plywood on a fairly substantial scale. In average west coast stands hardwood forests do not attain maturity until about 100 years old, but Western Plywood foresters see no reason why such forests cannot be brought to a satisfactory harvesting stage in 35 to 40 years, if scientific management is practised as in Finland and some other European countries.

The Quesnel plant is on the east bank of the Fraser River about three miles south of the town of Quesnel, a historic point as the entrance to the gold mines of the Barkerville district 60 miles to the east. Its commercial importance has been based on its status as northern terminal of the Pacific Great Eastern Railway which now, however, is being extended to Prince George.

The company has taken advantage of a mile-long bar in the river near the mill site and has developed a log boom holding ground there. A large proportion of the logs are floated down the river in rafts to the mill, making use of a plan developed for the company by Walter Williamson of Gatineau Boom Co., and an expert in river drive operation in eastern Canada. Cecil Cosulich of River Towing Co. has been directing the program, and his organization supplies most of the logs during the summer months, while in winter transportation is maintained by train and truck. More than 50 percent of the wood required is from the company's own lands, but independent loggers make their contribution, too.

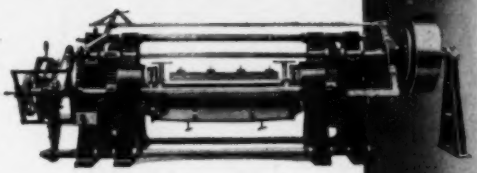
The plant itself covers 45,000 square feet of floor space. The building is without windows and construction is of heavy wood frame with composition roof. Walls are of 1½ inch plywood and Kimpreg plywood siding, similar to that used in the Vancouver plant.

Most of the logs going to the mill are of 12 to 30 inch diameter, although the equipment is large enough to handle larger material. Diesel power is supplied by B. C. Power Commission.

Major processing machinery consists of the following: Barker, Nicholson Manufacturing Co., Seattle; 110 inch by 54 inch Merritt lathe, with special roller bar head manufactured by Globe Manufacturing Co., Tacoma; following the design of William Miller, Elliott Bay Mill Co., Seattle, driven by steam engine connected with twin Airflex

From Lamp Tapers "BY THE THOUSANDS" ...TO Veneer "By the Mile"

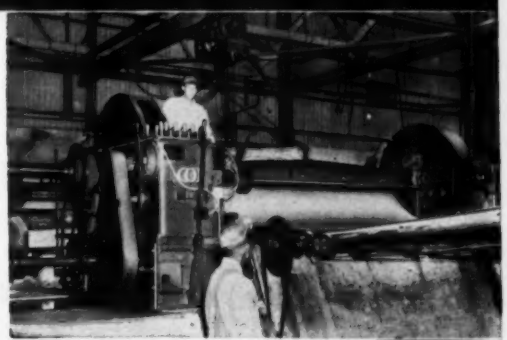
The basic idea incorporated in early Coe Lathes such as this one were sound but the job of producing taper and toothpick stock is insignificant compared with the requirements of most present lathes.



COE Veneer Lathes

From a small beginning a line of improved and refined lathes has been developed suitable for plants of all sizes and types as well as for the varying requirements imposed by the kinds and sizes of timber now being cut into veneer.

Improvements that every operator will note in the present Coe Lathes are: Smoother operation, easier adjustment, higher speeds and less repairs—the goals toward which Coe is ever striving.



A Coe Lathe for cutting the largest logs. "Mile after mile" of veneer flows from it with amazing speed and efficiency.

THE COE
MANUFACTURING COMPANY
350 BANK STREET
PAINESVILLE, OHIO

LATHES · CLIPPERS · DRYERS · KNIFE GRINDERS

clutch; Monsanto spreaders; Hot presses by Siemplkamps of Germany or Columbia Machinery Co., Ohio; 32 inch veneer hog machine built by Vancouver Engineering Works following a Lamb Grays-Harbor design; Elliott Bay clipper, 8 inch double deck Yates sander; saw setup consisting of a Wiekins-Challoner tenoner used as a "skinner" saw with Renold-Coventry trim saw, chain saw by Union Iron Works, Spokane; Monsanto (Laucks) spreader; Forano and Capital dry clippers, the former manufactured by Forano, Ltd., Quebec, and the latter by Capital Machinery Co., Indianapolis, Jackson lathe to cut cores down to 3½ inch diameter, manufactured by Jackson Industries, Birmingham, Ala., and several Raeniann patching machines.

Four steam treatment chambers were installed to soften the wood and thaw it out in the winter before being fed to the veneer plant.

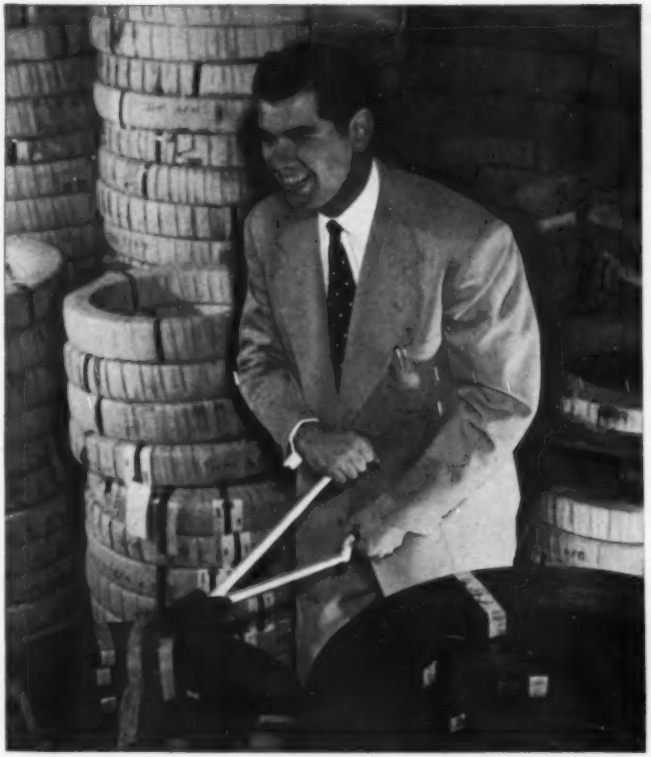
John Bene is president of Western Plywood Co., with E. E. Gregg as assistant general manager. James McCarthy is manager of manufacturing at both plants, Kenneth Rymer being directly in charge of Quesnel. Ian McQueen is manager of the company's forest and logging operations in the Cariboo.

Establishment of the Quesnel plywood plant and the plans for further expansion into the pulp and lumber fields are in line with the policy recently outlined by Mr. Bene when he said:

"It is important that the plywood plant should fit into a fully integrated scheme of wood utilization. This means that the non-peelable logs from the forest should find adequate markets and the plywood plant should not have to buy logs it cannot use. With every hundred cubic feet of logs turned into plywood, 25 cubic feet of wood for pulp chips are available as a by-product for pulp chips, and about 10 cubic feet of bark which should be burned in an efficient power plant."

Pioneer Sawyer Dies

Eugene J. LaPointe veteran head sawyer died at Quincy, Calif. recently. He was born in Quebec in 1881. He was with the Rainy Lake Lumber Co., Minn., Virgina, Minn., for eighteen years. Then he was for seven years sawyer for the Carpenter-Hixon Co., Blind River, Ontario, before coming west to work for the Saginaw & Manistee Lumber Co. of Williams and Flagstaff, Ariz. He was with this company from 1933 to 1944 when he moved to Quincy



Get **fast** steel strapping **service** from Brainard!

BILL HOGANSON of San Francisco, like other Brainard Strapping System representatives, knows a good thing when he sees it!

Here, in Brainard's West Coast warehouse, Bill surveys a complete stock of various types and sizes of steel strapping, strapping seals, tools, and accessories. On most items delivery is immediate.

That makes Bill happy, since Brainard representatives sell *with service.* They are warehouse conscious. They give personal attention to your packaging and shipping problems, and see that the right equipment is applied to your operations.

To improve your materials handling, call on Brainard. West Coast Offices at 717 Market Street, San Francisco. Phone: Yukon 2-4667.

COMPLETE STEEL STRAPPING SERVICE, LIGHT AND HEAVY DUTY STRAPPING, TOOLS AND ACCESSORIES

Brainard STEEL DIVISION

For new catalog on Brainard Strapping System, write Brainard Steel Division, Dept. R-3, 717 Market St., San Francisco.

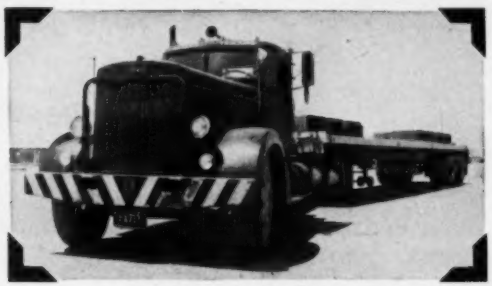
WARREN, OHIO

STANDARD ENGINEER'S REPORT

DATA	
PRODUCT	Standard Diesel Fuel
UNIT	50 Cummins diesels— 275, 200, 165 H.P.
CONDITIONS	Fast highway freight service
LOCATION	Pittsburg, Calif. to Los Angeles
FIRM	J. A. Nevis Trucking Pittsburg, Calif.

100,000-mile service period average for injectors!

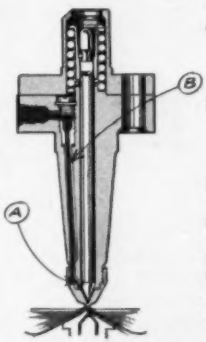
THIS INJECTOR is exactly as it came out of an H165 Cummins truck engine for the first time, after 115,000 miles of operation on Standard Diesel Fuel. The engine was running good and all injectors functioning properly when the truck came in for general overhaul. Burning Standard Diesel Fuel, the more than



50 engines in the J. A. Nevis Trucking fleet go an average of 100,000 miles before injector cleaning is required. "With Standard Diesel Fuel, we've had as much as 6 years of good service from injectors", says Geo. Rabideau, Shop Foreman. "It gives us better all-around service than any other brand."

RPM DELO SPECIAL LUBRICATING OIL in crankcases of J. A. Nevis' diesels also gives outstanding service. This assembly was in one of the truck engines for 110,000 miles and was replaced only because of mechanical problems not connected with lubrication. Taper in the sleeve was only 0.003. Rings were all good and machined marks on the piston skirt still intact.

How Standard Diesel Fuel cuts repairs and ups engine efficiency



A. Cleanliness, and viscosity within correct limits prevent wear of fuel parts.

B. Low pour-point assures free flow in all temperature conditions.

Proper ignition qualities and controlled distillation range provide even burning and sustained power with minimum combustion shock, quick starting and smooth idling.

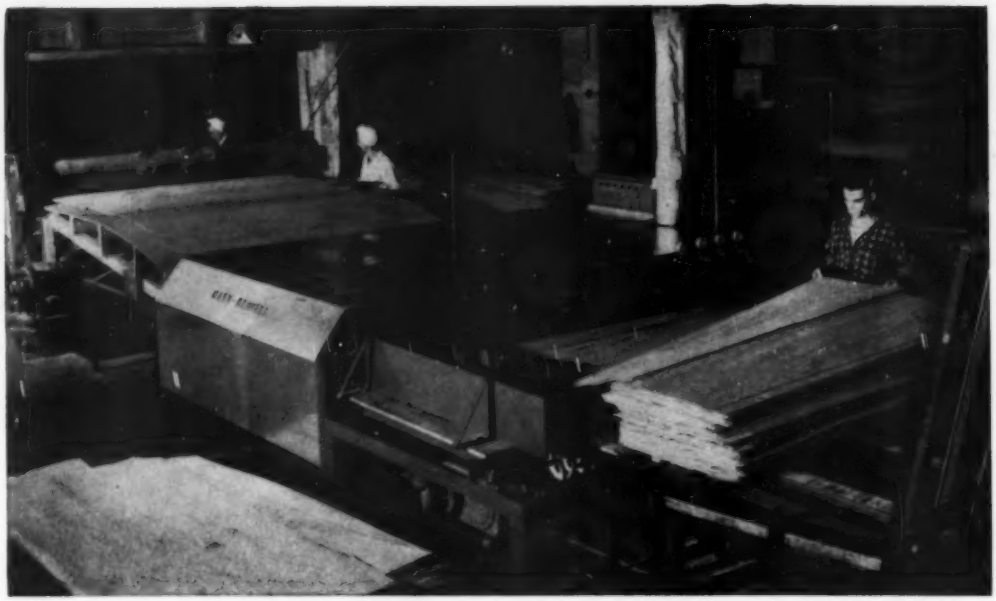
STANDARD DIESEL FUELS — RPM DELO LUBRICATING OILS

TRADEMARK "RPM DELO" REG. U.S. PAT. OFF.

REMARKS: Standard Diesel Fuel and RPM DELO Oil work together to develop the highest efficiency in diesel engines. The fuel is made to exact specification; the oil contains compounds to keep engines clean and prevent wear.

STANDARD TECHNICAL SERVICE checked this product performance. For expert help on lubrication or fuel problems, call your Standard Fuel and Lubricant Engineer or Representative; or write Standard Oil Company of California, 225 Bush St., San Francisco.

STANDARD OIL COMPANY OF CALIFORNIA



At Last! The Continuous *Flat-Plane* 100-Inch Electronic Veneer Edge-Gluer!

1. Speeds up to 30 lineal feet per minute. (Higher speeds on special order)
2. Perfect edge-register of joints. (First edge-gluer built on a flat plane!)
3. Superior to heated-drum type because:

   No surface heat is applied; no change of moisture content; no scorched surfaces; no stored heat.

   Gluing takes place while web is in flat plane; not curved . . . not stressed, internally!

   Locked-in stresses between panels are eliminated.

   Glue-line is solid-set throughout . . . evenly cured on both faces of the stock.

   Glue squeeze-out is solid-set; sheets may be used immediately, in production.

YEARS of development and experimental work—in the Mann-Russell laboratories and at the University of Washington Forestry School—culminate in this, the first successful continuous flat-plane veneer edge-gluer. It combines a new mechanical V-belt drive, electronic high-frequency heat, and Mann-Russell "Parallel Bonding"* to produce an endless strip of random-width edge-glued veneer. Check the features!

Equipment available in any width for any wood thickness from 1/16th inch to 8 quarter. To speed your production through modern high-frequency gluing, write, wire or contact the pioneers in electronic applications for the wood-working field:

Northwest Syndicate, Inc.
1321 "A" Street Tacoma 2, Wash.

HOME OF

Mann-Russell Electronics

* Licensed under Parallel Bonding process patents No. 2,434,573 and 2,457,498. Patents pending on flat-plane veneer edge-gluer.

NEW GREEN VENEER PLANT AT B C SAWMILL

British Columbia will soon have another important plywood manufacturing operation when the B. C. Forest Products Ltd., plant in Victoria goes into production. This project represents an investment of $2,000,000, and it is designed for an output of about 40,000,000 square feet of ⅜ inch plywood annually.

The plywood plant is located adjacent to the company's sawmill in Victoria's inner harbor. Originally the sawmill was operated by the Cameron Lumber Co., one of the pioneer Vancouver Island groups, but it has been enlarged and modernized since the B. C. Forest Products Ltd. acquired it several years ago.

As a preliminary to the Victoria plywood development, the company established a $200,000 green veneer plant at Youbou, last summer, to operate in conjunction with its big sawmill dominating the B. C. Forest Products Cowichan Lake Division. When the plywood plant is ready to go into operation, veneers will be shipped from Youbou over the Esquimalt & Nanaimo Railway to Victoria, a distance of about 100 miles.

Logging for the Cowichan Division is being carried out on both sides of the lake, and the logs are usually delivered to the mill in bag booms. In the pond outside the mill the peeler logs are segregated from the saw logs and are routed to a Blue Babe chain saw with 7 foot and 10 foot blades which functions as a boom saw.

When cut off to length required, the peeler logs are fed to a Bamford log barker of the scraper type, manufactured by the Premier Gear & Iron Works, Portland, Ore. The machine is capable of taking a log 90 inches in diameter and as long as 110 inches.

The veneer lathe is a Bamford hydraulic unit, also manufactured by Premier Gear & Iron Works. This has a capacity of 84 inch diameter by 110 inches long. The lathe drive is a Kirk-Hillman 200 h.p. AC motor, with 150 h.p. DC motor driving.

The tray system operated in the plant was built on the ground by the company's own engineers and construction crew. It is 150 feet long. Six trays are in operation, with provision for two more to be subsequently installed.

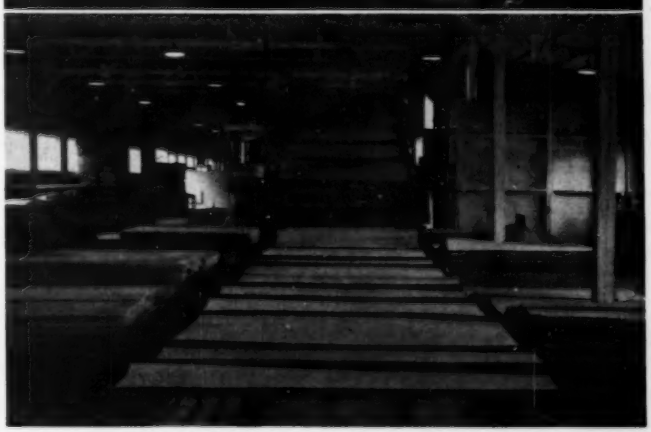
For clippers the company chose one Elliott Bay and one Victor unit.

Handling of the veneers in the plant is taken care of by a Clark 6000 pound Dynatork lift truck. The plant is equipped with Rogers knife grinding machines.

This is one of the most efficiently equipped plants in the country, and provision has been made for the fullest possible economic use of all the raw material entering it. Refuse, for instance, is disposed of through a veneer hog built by Vancouver Engineering Co. and a Jackson chipper powered with a 15 h.p. motor. The chips are screened over a Dillon shaker-type screen.

Chips from the veneer mill join with those from the sawmill whose chipping facilities consist of a 66 inch 8-knife Canadian Sumner unit. The company has a contract for the delivery of its chips to the Harmac bleached sulphate pulp mill of MacMillan & Bloedel, near Nanaimo.

B. O. Whiles is manager of the Cowichan Division, with Wally Barkley, superintendent of the green veneer mill. B. C. Forest Products Ltd. is one of the largest lumber companies in Western Canada, owning and operating mills at Vancouver, Hammond, Victoria and Youbou. President is E. P. Taylor, Toronto, and vice-president and general manager H. G. Munro.



Above—Bamford log barker at Youbou green veneer plant, manufactured by Premier Gear & Iron Works, Portland. Below—View of interior of the green veneer plant at Youbou showing the dryer and tray system. Elliott Bay and Victor clippers are part of the equipment.

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PROMPT SHIPMENT of METCO KNIVES is *guaranteed* in most standard sizes. Every shipment — large or small — is given the same careful attention.

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METAL PROCESSING COMPANY

REDWOOD PLYWOOD

At Eureka, Calif., the M & M Woodworking Co., Portland, Ore., of which Thomas B. Malarkey is president, is operating its new $2,000,000 plywood plant for both redwood and fir, splitting its production about half and half.

This mill production is on a straight assembly line basis. The plant is 850 feet long and one may stand at the green end and see every process of fabrication from barking to the finished plywood being loaded into cars.

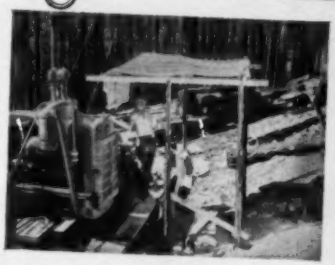
An abundance of choice Redwood flitches flow from this Moore Roller Veneer Dryer at M and M Wood Working Company's Eureka California plywood plant, center of the firm's vertical grain and rotary cut redwood plywood operations. Flitches shown here will be banded with special, non-staining glues to make the new Malarkey Rift Grain Redwood Plywood.

The veneer moves along the conveyor under fluorescent lighting for inspection, moving into the clipper where clipper men cut clear sheets away from defective sheets. The sheets coming out of the clippers are sorted by widths and grades by half a dozen men and placed on trucks for the dryers, a few feet away.

This point is one of the crucial points in producing Redwood plywood, since this particular wood is exceptionally high in moisture content. The huge Moore Roller Veneer Dryers, side by side, 60 feet long, 10 feet high and 15 feet wide receive the wet veneer and quickly reduce its moisture content from about 40 to only 2 percent. Men feeding the dryers ride hydraulic lifts which raise them to the proper level for sliding veneer sheets off the stacks into the

(Concluded on Page 199)

GM Diesel
Case History No. 5116-85
USER: West Side Lumber Company, Tuolumne, Calif.
INSTALLATION: GM 6-71 Diesel powering log loading winch. Replaced steam plant in January, 1947. Firm produces 150,000 bd. ft. per day.
PERFORMANCE: Mechanic-foreman reports GM Diesel saves 50% in fuel and maintenance costs. GM Diesel does 20% more work; uses about 25 gallons of fuel per 8-hour day. Steam plant required man on duty 24 hours to keep up steam and guard against fire. GM Diesel starts instantly on its own safe Diesel fuel.



THIS DIESEL LOADS 20% MORE LOGS

— cuts fuel and maintenance costs in half

Here's another hard-fact case history that proves what General Motors Diesel power goes to, power costs come down. Because of their 2-cycle efficiency, GM Diesels accelerate faster — go more work done on fewer gallons of low-cost fuel. And they start at the push of a button, even in coldest weather.

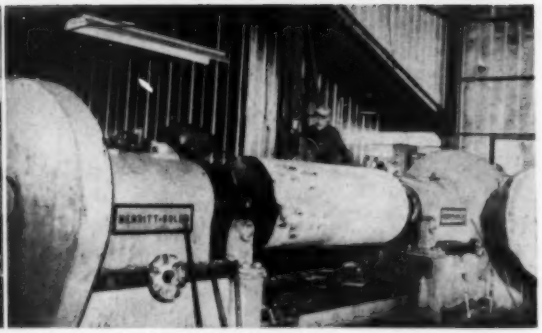
What's more, interchangeability of parts in all GM Series 71 engines, 2 to 24 cylinders, reduces inventory needs — helps keep down time at a minimum. Check it with other operators — prove it for yourself by specifying GM Diesel for any job from 22 horsepower up.

DETROIT DIESEL ENGINE DIVISION
GENERAL MOTORS, DETROIT 28, MICHIGAN

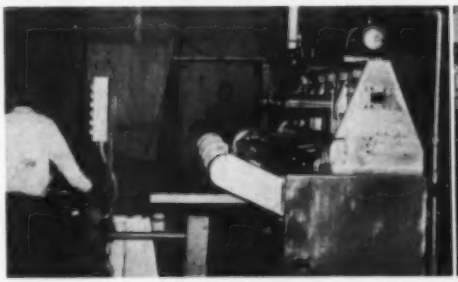
It pays to Standardize on

GM
DIESEL POWER

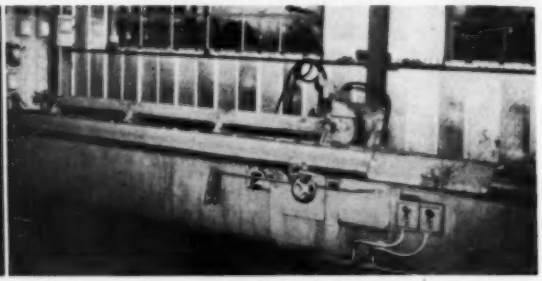
L-M Equipment Co. electric drag saw bucking log on deck. Notice peeler bolt cradle.



Merritt-Solem 110" lathe, powered with C. Kirk Hillman drive.



Elliott-Bay semi-automatic clipper.



Hanchett Mfg. knife grinder.

CALIFORNIA'S NEWEST VENEER PLANT

One of the most modern green veneer plants on the West Coast went into operation between Redding and Anderson, Calif., last Fall.

The mill is that of the Anderson Veneer Co., Division of Plywood, Inc. Manager is A. J. Honzel, who is also manager of Kalpine Plywood Co., and Southern Pacific Plywood Co., Klamath Falls, Ore.

Superintendent of the plant is Ken Knight, formerly with the Humboldt Plywood Corp. Logs are dumped into a 7-acre log pond, from a reinforced concrete log dump, the A frame of which is made of steel. The hoist was made by Gerlinger Steel & Supply Co., Redding, and is powered with a Westinghouse gear motor.

The log haul is all steel, and was fabricated by the C&D Welding Works, Redding, who also built the trash burner, and the conveyors. As logs come out of the pond, they are bucked to length with a L-M Equipment electric powered drag saw. The C&D Welding Works also built a pneumatically operated log lift, to lift the bolt to separate it from the rest of the log after it is sawed through. This log lift is heavily constructed of railroad iron.

Bolts are taken from the log lift to the Bamford Premier barker, powered with a 20 hp motor with gear reduction, via a LoadLifter overhead crane. Bark is removed to the burner in a Chain Belt chain flight conveyor.

Another LoadLifter overhead crane picks up the barked bolts from the hot deck and deposits them at the Merritt-Solem 110" lathe. This lathe is powered with a C. Kirk Hillman motor generator drive. The knife grinder is by Hanchett Mfg. Co.

The six tray veneer system is somewhat unique. It is two speed with a speed of 270' per minute lathe input, and 120' at the clipper. It was designed by Hal Staples, master mechanic at the Crescent Plywood plant of Plywood, Inc., and by the Gerlinger Steel & Supply Co. The drive was assembled by Charlie Bamford, Portland.

Instead of using belt to carry the veneer panels, they are carried on 3/8" wire rope. This wire rope is equipped with spring tension tighteners.

Veneer is clipped with an Elliott Bay semi-automatic clipper, and after being clipped it is strapped with Acme Steel strapping, and taken via small lift truck to freight cars where it is shipped to the Southern Pacific Plywood Co. for manufacture into veneer.

Left: Ken Knight, superintendent, Anderson Veneer Co. Right: The Bamford Premier barker.

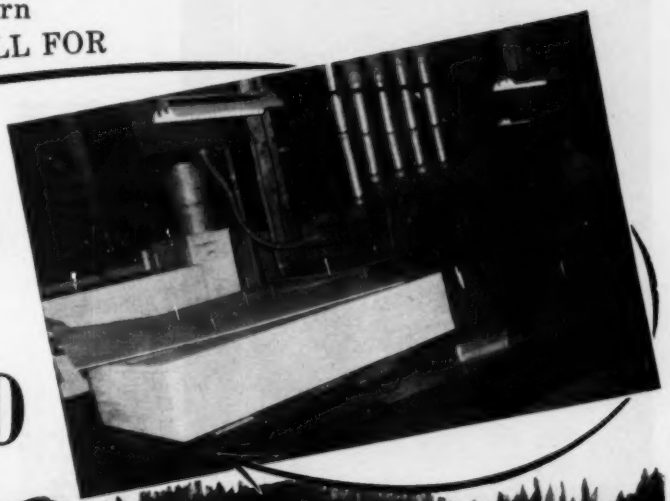
Look to LONG-BELL'S

New and Modern

GARDINER, ORE. MILL FOR

QUALITY

DOUGLAS FIR PLYWOOD



From Long-Bell Douglas Fir and Ponderosa Pine factories —quality Frames, Industrial Cut Stock, Sash and Doors, Glazed Sash, Box Shook... Kitchen Cabinets . . . Unpainted Furniture . . . Prefabricated Building Stock... varied Products.

OAK FLOORING

PONDEROSA PINE and DOUGLAS FIR PLYWOOD

TREATED PRODUCTS

...Woods treated with creosote and standard salt preservatives, from Long-Bell Wood Preserving Plants.

Now from a new and ultra-modern Long-Bell Lumber Company plant at Gardiner, Oregon, comes a new Long-Bell product – Douglas Fir Plywood of top quality. The manufacture of plywood in Ponderosa Pine has been one of Long-Bell's major operations since 1912 at Weed, California. These many years of experience in plywood production have been incorporated in the design of the new Gardiner plant to assure stability in quality and production of Fir plywood. The modern new plant makes available to the trade a dependable source of plywood in grades to meet its need from old growth Douglas Fir, in addition to Long-Bell's continued production of high-quality Ponderosa Pine plywood. You can sell this new Long-Bell product to your customers with complete confidence.

The Long-Bell Lumber Company

Established 1875

KANSAS CITY 6, MISSOURI

DIVISIONAL SALES OFFICES

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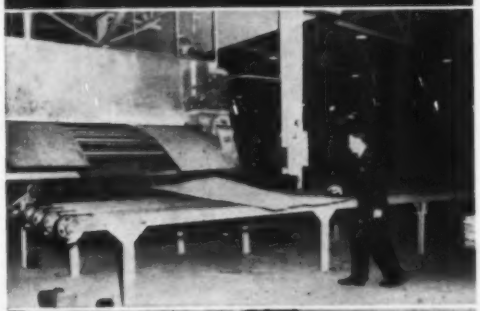
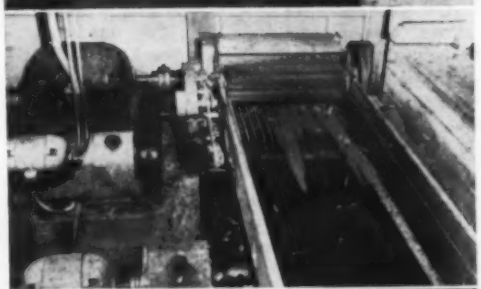
WEST'S NEWEST PLYWOOD PLANT

The Merritt-Salem 110 in. lathe with 84 in. swing converting peeler block into veneer. Lathe is powered by General Electric Amplidyne drive.



Outfeed end of 14-section 5-line Moore veneer dryer, one of two Moore dryers in the new plant.

Simonds knife on Coval-Hanchett grinder has been sharpened and pre-set ready for positioning in lathe.



Peninsula Iron Works veneer hog powered by G.E. motors.

Examining smoothly surfaced plywood panels coming from 8-drum Yates-American sander equipped with American Sheet Metal Works blower system.

Sound engineering, planning from experience and the full cooperation of suppliers and manufacturers have transformed an Oregon cow pasture into one of the Pacific Coast's most modern plywood plants.

The new plant is operated by the Gardiner Lumber Company, a subsidiary of The Long-Bell Lumber Company, at Gardiner, Oregon, one of the oldest wood products manufacturing communities in Oregon.

Peeling of the first block in the new Gardiner plant took place on December 3, 1951, just 10 months after the first foundation piling was driven the previous February.

Start of the new plant, which has a capacity of 60,000,000 square feet of 3/8 inch basis annually, provides Long-Bell with its first Douglas Fir plywood production in its 77 years of operation. Long-Bell was one of the first producers of Ponderosa Pine plywood when a plant was placed in operation at Weed, California, in 1912. The Weed plywood mill has recently been modernized and the 40 years of experience gained in plywood manufacturing has been incorporated into the new Gardiner plant. Both interior and exterior types are being manufactured at both mills.

The Gardiner Lumber Company became a Long-Bell subsidiary in 1948. J. M. White, Long-Bell president, is also president of the Gardiner Lumber Company. J. H. Kenesson is vice president and general manager of the Gardiner Lumber Company, and Long-Bell vice president in charge of the Longview division. A. J. Myers is assistant general manager of the Gardiner Lumber Company, and maintains headquarters at the Gardiner offices. He was formerly superintendent of Long-Bell plywood manufacturing. J. M. Adams is general superintendent at Gardiner; R. J. Forsyth is plywood superintendent and R. R. VanOrden is logging superintendent.

Newest designs in plywood manufacturing equipment have been incorporated in the Gardiner plant

Gardiner Lumber Company's Oregon mill incorporates production ideas gained from 40 years experience in plywood manufacturing.

with such installations as Merritt-Solem lathes and dry veneer clipper; Ederer barker, core charger and cranes; Elliott Bay semi-automatic clippers; Globe defect cutters, hot patch setters, tape machines, skinner saw, equalizer, glue spreader and Rezite machine; Moore dryers with elevators; Skoog plugging machines; Columbia 16 opening hot presses; Fluckinger glue mixers; General Electric motors; Falk reduction gears; Peninsula Iron Works veneer hogs and a Diamond hog for the heavier refuse; Yates-American eight drum sanders; Simonds saws and knifeblades; Covel-Hanchett grinding equipment; elevator from Portland Elevator Company; American Sheet Metal Works blower system; Towmotor lift trucks and Yale electric work savers for moving veneer and plywood in the plant. The pond saw was manufactured by the Union Iron Works.

Logs from the company owned timberlands, which are being operated on a forest management basis, will be rafted to Gardiner down the Umpqua and Smith rivers for use at the new plywood mill. Logs will also be purchased from suppliers in the immediate area.

The pond saw and float are unique in construction. The float is divided into four water tight compartments and with the pumping of water in or out of the compartments, the float may be maintained at the proper level.

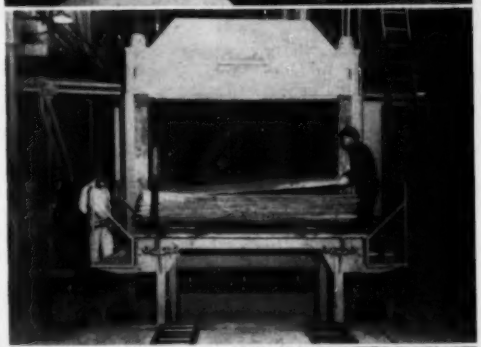
Peeler blocks are lifted into the green end of the mill with a 7½ ton Ederer bridge crane fitted with a Long-Bell designed spreader bar employing bell hooks to hold the block.

The Ederer barker is a combination scraper and dado type, and is the third of the particular design to be installed by the manufacturer.

The storage of peeler blocks is of new design in that the 80 foot storage space is conveyorized. The floor chains are divided into two 40 foot sections. The barker operator or lathe spotter may control his respective section or the entire conveyor.

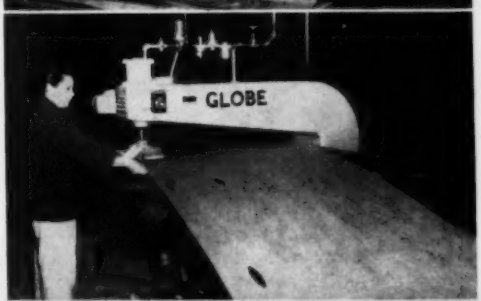
A Pacific Coast model Merritt-Solem lathe with 110-inch knife and 84-inch swing is the heart of the new

Removing bark from peeler block in Ederer scraper-dado type barker.



One of the two Columbia 16 opening 4x8 hot presses with maximum hydraulic pressure of 200 lbs PSI. Mathews roller conveyors are used to convey material to the presses.

One of two Elliott Bay clippers in green veneer production line



Patching veneer with Globe hot-patch setter, one of five such machines in the department.

Equalizer section of Globe skinner cut-off with American Sheet Metal Works blower system.

Gardiner plywood mill. With fully motorized controls, the lathe is powered by a 100 hp General Electric amplidyne drive. A 7½ ton Ederer monorail hoist is used for spotting peeler blocks on the lathe.

The core lathe is a Model 25 Merritt-Solem with a 66-inch knife and a 54-inch swing and equipped with a semi-automatic Ederer core charger. An Atkins electric powered chain saw cuts the cores to the proper length and a two ton electric monorail hoist swings the cores into position.

The tipple feeds the veneer onto trays six decks in height and 175 feet in length, and has an adjustable speed drive furnished by Hillman and General Electric to carry the veneer to two Elliott Bay clippers placed one above the other. Each of the clippers takes the veneer from three of the trays.

The green veneer chain is 80 feet in length and provides 10 segregations. The veneer pull off rolls were developed by Long-Bell at the Weed plywood plant and have been put in use at Gardiner. The pieces of veneer are segregated and pushed into live rolls which deliver them onto pallets.

The two Moore veneer dryers are of the latest design cross circulation type and operate at a steam pressure of 250 lbs. Both are five line dryers, one a 12 section and the other a 14 section, and are fed from newly designed Moore elevators. A drying cycle of 12 minutes for 1/10-inch sap veneer is the production of the dryers at the present time.

The preparation of the dry veneer for the lay up is handled by a battery of Globe machines. Two boat type defect cutters and five Globe hot patch setters along with a Globe core saw, travelling head edge jointer and two one-inch tape machines prepare the dry veneer for forming plywood. A Merritt-Solem dry clipper with an electric clutch and two Skoog plugging machines completes the equipment that readies the veneer.

In the glue loft, two double batch Fluckinger glue mixers prepare glues used in the manufacture of the interior and exterior types of plywood produced at the new Gardiner plant. Used for interior type plywood is Balfour-Gutherie formula B-39 protein glue with blood extender, and for exterior type the Reichhold formula P-398, a phenolic resin thermo setting glue, binds the sheets of veneer.

Two Columbia 16 opening hot presses with maximum hydraulic pressure of 200 lbs. psi have been installed side by side to weld the layers of veneer into quality plywood. Three Globe glue spreaders have been conveniently located to cover the core veneer and feed to the lay up with a minimum of waste motion.

The Globe skinner saw and equalizer gives the sheets of plywood uniform dimensions before moving to the finishing department.

Six hand patching stations are included in the finishing department and two eight drum Yates-American sanders and two Globe belt sanders give the sheets of Douglas Fir plywood the final satin smooth finish. The two Yates-American sanders are fitted with a blower system constructed by the American Sheet Metal Works, Portland, Oregon, as is the balance of the plant.

For the processing of plywood for concrete forms, a Globe Rezite machine has been installed. Edge sealer is applied with a spray gun.

The simplicity of design of the Gardiner plant is the key to efficient operation and maximum production. Adequate working room has been incorporated into the large windowless building with 63′ x 40′ bays and concrete floors.

The foot controlled platform elevators at the defect cutters, spreaders, rip saw and equalizer, were designed by Western Machinery Company, Portland, Oregon.

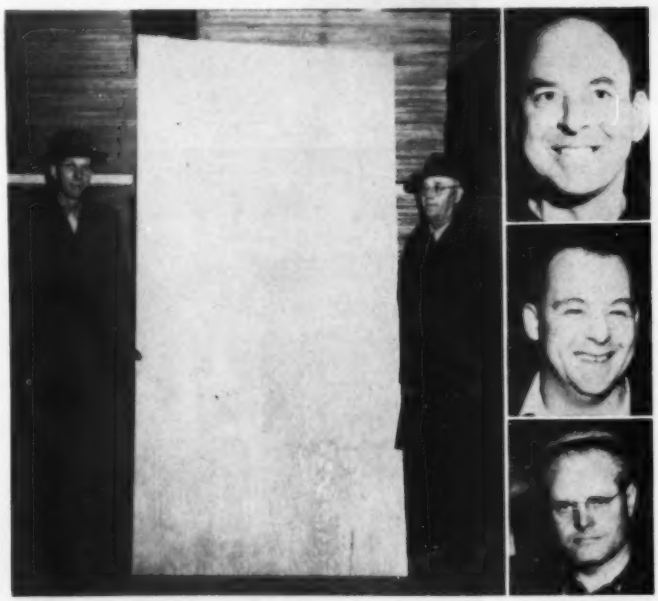
All conveyor systems are 30-inch New York Belt and Packing Company belts operating on 30 inch rollers.

The storage area for finished plywood has a capacity for 25 cars. Five cars may be loaded inside the plant.

The entire plant is protected with sprinklers installed by the Grinnell Company of Oregon. Associated Wood Trusses, Portland, fabricated the building trusses. Consulting engineer was Alex Stoyanov Associates, Portland.

Construction and design of the Gardiner plywood plant was under the direction of T. E. Heppenstall, Long-Bell vice president in charge of engineering with George French as construction manager, and W. R. (Bud) Howell, construction foreman, and Dwight Ritchie, field engineer. Gardiner Assistant General Manager Myers was active in the planning and coordination of the new plant.

W. C. Kelly is foreman of the day shift; Charles A. Frazier is head sanderman and A. L. (Hap) DeLong is head millwright.

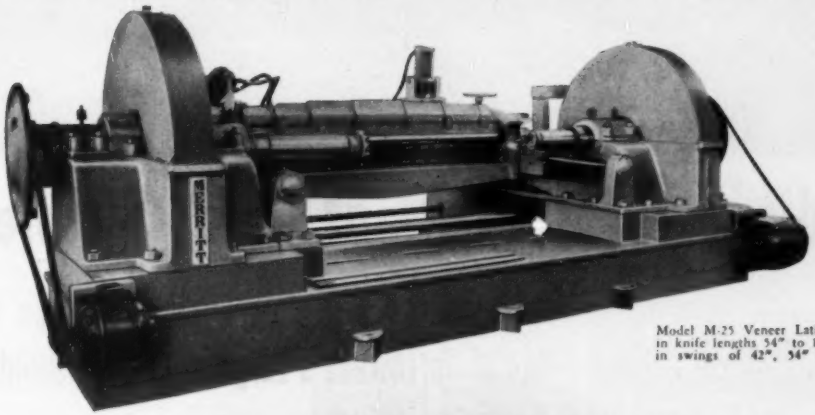


A. J. MYERS (left), asst. general manager, and J. H. KENESSON, vice pres. and general manager, standing beside panel of first plywood shipment from new plant.

Top: R. J. "BOB" FORSYTH; Center: W. C. KELLY; Bottom: C. A. FRAZIER.

MERRITT-SOLEM

Machinery and Equipment for Veneer and Plywood Mills



Model M-25 Veneer Lathe made in knife lengths 54" to 126" and in swings of 42", 54" or 60".

BASE of all welded steel construction provides maximum rigidity. Core slot under spindles built into base when desired.

MAIN DRIVE Gears are helical spiral for extra long life and even thrust distribution.

SPINDLE SLEEVES revolve in bronze journals and are extra long to give maximum support to spindles.

SPINDLE THRUST is taken by large roller bearings which greatly reduce power load.

FEED SCREWS AND FEED SHAFTS are supported in tapered Timken Roller Bearings.

KNIFE CARRIAGE of welded steel has adjustable as well as replaceable trunion ends.

POSITIVE ACTION HYDRAULIC CHUCKING (Optional) provides fast, smooth, infinitely variable chucking pressures — lever controlled for large volume production operation.

OTHER MERRITT-SOLEM VENEER LATHES — M-28, M-45 and M-45-W.

The M-25 or "MESCO veneer lathe is widely known for its ruggedness, accuracy and flexibility.

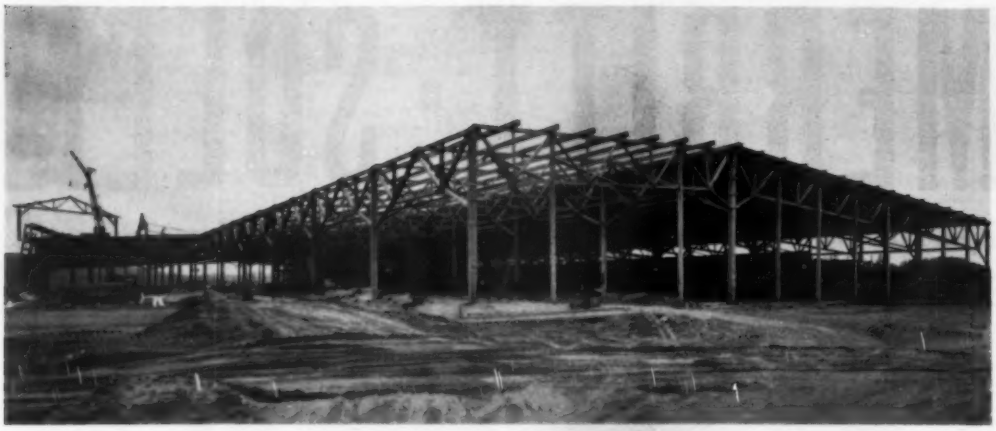
Merritt-Solem engineers have incorporated many long life features that make this machine even more desirable. Such items as renewable bronze bushings in the knife bolt holes, renewable wear plates on the ways and renewable knife carriage trunions all contribute to economical maintenance.

In all cases *Merritt-Solem* tailors the lathe to fit *your* special requirements. Our Engineering Department is always at your service and we invite your inquiries.

Remember also that *Merritt-Solem* offers a complete line of lathes, clippers, jointers, presses and dryers. All proven and dependable equipment perfected during our many years of service to the veneer and plywood industry.

MERRITT

MERRITT-SOLEM CORPORATION
LOCKPORT, NEW YORK
Established in 1851



Gardiner Plywood Plant Now Completed

Prefabricated strap-connected truss being lowered into position

Workmen fasten strap-connected roof truss to carrying truss.

Completed roof superstructure of one section of the mill before roofing was applied.

Associated Produces Superstructures for One of Northwest's Largest Wooden Buildings

Here's a fine example of todays trend in spacious industrial buildings with acres of open floor space. The Gardiner Lumber Company's new Plywood mill at Gardiner, Oregon is one of the largest of its kind. The main building measures 240 by 480 feet. The log deck measures 140 by 60 feet.

To roof this immense area, yet insure large expanses of open work space, Associated engineers designed a superstructure containing 158 parallel chord strap-connected trusses as well as other prefabricated structural members. Associated also constructed the framework for an elaborate conveyor system for waste disposal which is unusual in design. Tom Lillebo was general contractor and Alex Stoyanov, consulting engineer.

A COMPLETE SERVICE TO BUILDERS

Associated Wood Products has pioneered many of the newest techniques in the engineering and fabrication of roof trusses and structural members. Our Portland and Seattle plants are operated on a plan which insures the builder of the utmost in economy and speed of erection. Our complete staff of engineers, estimators and structural experts are ready at all times to serve architects, engineers and contractors. Send us your specifications today for an accurate estimate of cost and time. No obligation, of course.

"In Wood We Truss"

ASSOCIATED WOOD PRODUCTS of the Northwest

1008 S. W. Sixth Avenue, Portland, Ore.—BR. 6441 **1132 W. 45th Street, Seattle, Wash.—SU. 2210**

New Low Density Hardboard

A new low density ¼-inch hardboard designed especially for interior wall covering is being manufactured by the Forest Fiber Products Company, Forest Grove, Oregon.

The new product called, Thriftwood, is made by the wet process as are the other hardboards of the company and to all appearances it is the same in color and surface characteristics.

Basically it is made with the natural wood bond by the wet process with some fortifying materials added to give the product additional qualities which the wood bond alone could not provide. The fortifying materials are introduced to the long, strong Douglas fir fibers in the process before the natural wood lignin welds the fibers together in the hot press operation. The result is a homogenious hardboard with uniform characteristics throughout. The manufacturers say this means greater water resistance and internal strength or cohesiveness which shows up in the working properties of the board. It is easily nailed, sawed, glued, planed and worked with woodworking tools.

Since the new board is designed to meet the requirements of a good interior paneling it has adequate rigidity but is less dense than the treated hardboards intended for exterior use and other standard boards made by the company which are provided with extra strength for more exacting uses.

Thriftwood was developed because of the large number of uses both in the construction field where less strength and density are required. In the industrial field, the board will be used for such uses as drawer bottoms, mirror and picture backs, games, toys, novelties and so forth. In the construction field, underlayment for linoleum, new walls applied directly to studs, covering for old wall are a few suggested uses.

Thriftwood will be added to the complete line of trademarked Forest Hardboard and sold by distributors throughout the country.

Accredited Scalers

Four more Washington men have been added by Seattle district Office of Price Stabilization to its list of accredited log scalers and graders. They are J. M. Small, Route 3, Box 301, Olympia, Carl T. Johnson, 610 E. 2nd, Aberdeen, Gordon S. Barrett, Route 1, Box 1320, Redmond, Lynn Bell, 2725 Victor Street, Bellingham.

54" x 102" Columbia Hardboard Press with 20 4" daylights. Working Pressure—700 p.s.i.

Columbia

offers practical, pioneering experience to help you solve Hardboard Curing problems

Drawing from an extensive background of pioneering experience in veneer and plywood press design, Columbia press and hydraulic engineers have been working closely with hardboard producers since the product was in its earliest experimental stages.

Their great fund of sound, practical knowledge and experience has been invaluable in helping many newcomers in this infant industry.

If you are manufacturing or contemplate entering the manufacture of hardboard, you are invited to make use of this service. Write for name and address of a nearby representative qualified to talk over your problems and pass them on to Columbia engineers for study and recommendations. Address Columbia Machinery and Engineering Corporation, Hamilton 5, Ohio.

Columbia HYDRAULIC HARDBOARD PRESSES

HOT PLATE AND LAMINATING PRESSES

first came lumber...

then plywood and hardboards...

now comes **novoply***

NOVOPLY...

new... completely different

...unlike any other laminated wood paneling you've ever seen!

The small flakes of wood veneer which sparkle on its surface give it old world charm and modern utility.

...give it a *beauty* that seems all the more delicate when you consider its great strength and durability.

Yes...for all its wonderful appearance... Novoply has the stiffness that makes it the *flattest* paneling ever produced!

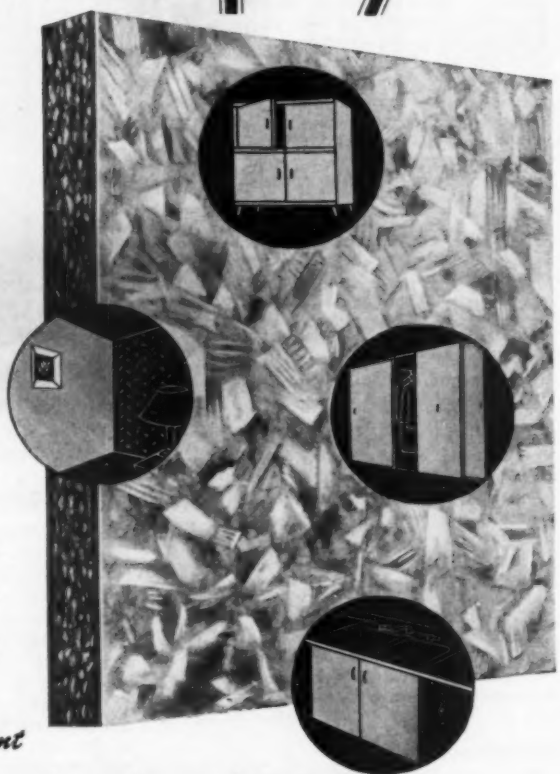
So beautiful is Novoply...it will be in demand for "heirloom" furniture of all kinds.

So flat...so easy to work is Novoply...it has great value as a core material for wood veneers, plastic and other coverings.

So dimensionally stable is Novoply...it solves a problem that could never adequately be solved before: the sliding and cabinet door problem.

So low-priced is Novoply...it seems a "miracle" *still* to those who have seen it.

*T. M. Reg. Patented; Other patents pending



Novoply...

...new...completely different

...unlike any other wood paneling you've ever seen!

made by

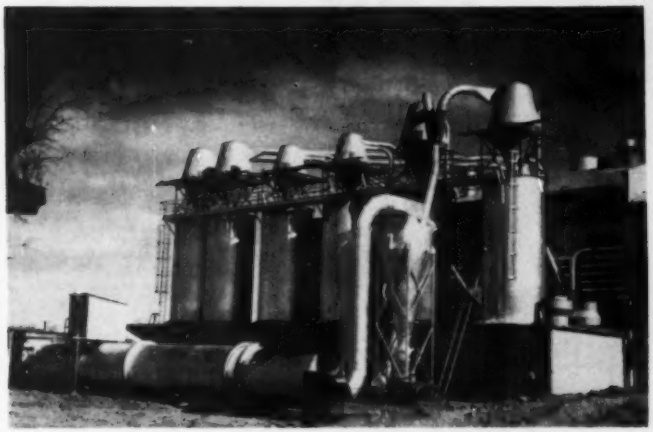
UNITED STATES PLYWOOD CORPORATION

55 West 44th Street, New York 36, N. Y.

Largest Plywood Organization in the World

NOVOPLY — a new product

PLANT AT REDDING, CALIFORNIA, REPRESENTS A MAJOR DEVELOPMENT TOWARD COMPLETE UTILIZATION OF RAW MATERIAL OF THE FOREST.



A close-up of the storage silos at Novoply plant.

The addition of the recently completed Novoply plant to the existing facilities of the Redding, California operation of United States Plywood Corporation represents a major development toward more complete utilization of forest products. This first Novoply plant has been erected near Anderson, California because Shasta Plywood, Inc., a subsidiary of USPC operates a major plywood mill at this location. Plywood peeler cores and veneer scrap serve as the basic raw materials for the Novoply plant.

Other plants included in the operation are a remanufacturing mill located adjacent to the plywood mill and a sawmill at Shingletown, California, making this operation a model of utilization.

The United States Plywood Corporation has been searching for several years for a product which would utilize that part of our forest resources which are unsuitable for plywood or lumber and which would also have superior dimensional stability. This search included research by the company as well as investigation of processes developed by others and offered to the company.

A Novoply panel.

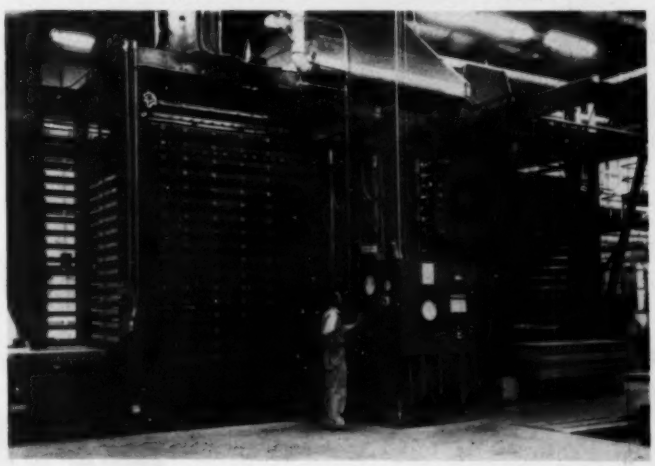
Photos by United States Plywood Corporation

When the Novoply process was offered to United States Plywood Corporation, for development in North America, the company embarked upon an extensive program of laboratory investigation and market research to prove its worth. It was soon apparent that here was the answer for both wood conservation and superior dimensional stability, a product which could fill many of the uses of plywood and lumber.

Novoply is manufactured by a process developed by Mr. Fred Fahrni in Switzerland in the early 1940's and has been commercially produced in Europe for approximately six years. It's expansion in Europe has been stimulated by the necessity for forest conservation which had been recognized much earlier than in our own country.

Since the process, as developed in Europe, required a considerable amount of hand labor, which is practical with the lower wage scales prevailing in those countries, it was apparent that re-engineering of the European design would be necessary. United States Plywood Corporation, with the assistance of the Lockwood Greene Engineers in New York, took the European design and with the cooperation of American machinery

(Continued on Page 144)



The 4'x8' Baldwin-Hamilton-Lima sixteen opening hot press with American Manufacturing Co's. press loading and unloading equipment in new Novoply plant of Shasta Plywood Inc., Redding, Calif. There is another Baldwin-Hamilton-Lima 6'x12' press in the plant. Note Westinghouse press control panel in foreground.

Another

"extremely enthusiastic" about the first one . . .

so, naturally, they ordered another!

Latest Baldwin Hydraulic Press for United States Plywood Corporation being tested just prior to shipment.

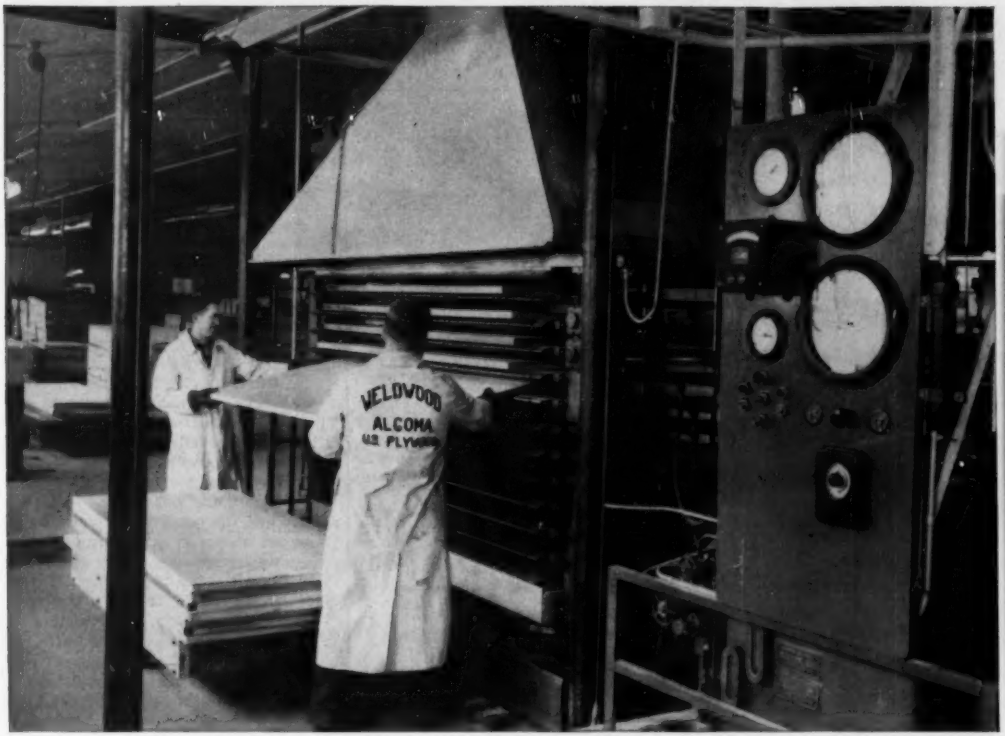
BALDWIN BLH LIMA-HAMILTON

BALDWIN

BALDWIN PRESS

goes to work for

UNITED STATES PLYWOOD CORPORATION



Here is a dual-endorsement of the Baldwin Hydraulic Plywood Press that is hard to beat!

The *first* endorsement came back in 1948, when United States Plywood Corporation, largest producers of plywood on the globe, installed its first Baldwin. The president wrote: "The organization . . . states without qualification that it is one of the finest pieces of equipment that we have in any of our plants."

The *second* endorsement came recently, when United States Plywood Corporation ordered *another* press. This reorder is convincing evidence of the ability of the Baldwin press to boost production, reduce rejects and control costs.

You'll find the reasons for the production-performance of the Baldwin Plywood Press in the B-L-H engineering that has provided such important features as welded top and bottom platens with maximum resistance to deflection . . . rolled steel steam plates, accurately guided to maintain alignment and precision, drilled on a special Baldwin multiple machine to assure uniform heat distribution . . . multiple rams to assure uniform platen pressure . . . and easy loading, due to ample daylight.

The Baldwin line of standard plywood presses, providing platen areas up to 130" x 62", takes care of all ordinary production needs. If you have some special problem, Baldwin will develop an individual design to take care of the exact need. Bulletin 268 will give you complete information; write for it.

BALDWIN-LIMA-HAMILTON CORP.

General Offices: Philadelphia 42, Pa.

Offices in Principal Cities

-LIMA-HAMILTON

Novoply

(Continued from Page 141)

manufacturers, extensively re-designed the process, mechanizing it throughout. This new plant near Anderson is therefore a completely mechanical, semi-automatic operation with a minimum number of operating personnel.

Novoply is a three-ply panel having a low density inner core produced from veneer scrap through a special grinding and screening procedure. The outer faces of the panel are composed of a fine grade of shavings produced from peeler cores by means of special machines designed and fabricated in Europe for this process.

A special glue, manufactured by the United States Plywood Glue Division, Portland, Oregon, is applied to the chips and shavings separated by special patented and imported glue machines.

The panel is fabricated by depositing automatically weighed batches of shavings and chips on a metal plate with two face layers of shavings and one layer of chips forming the panel. There are two production lines in the plant, one serving a 4 x 8 press and the other serving a 6 x 12 press.

Although a fair amount of the specialized machinery employed in the process is imported from Switzerland, a very considerable number of American-made machines are also used throughout the plant.

Both hot plate presses were fabricated by Baldwin-Lima-Hamilton and each has 16 openings.

The integrated mechanical conveying systems, automatic press loading and unloading equipment as well as the panel trim saws used on the finished product were all supplied by the American Manufacturing Company of Tacoma. Young and Bertke of Cincinnati installed the extensive pneumatic conveying system used to transport the wood particles. The electric motors as well as all motor control centers, main switch gear and other electrical control equipment was supplied by Westinghouse. A great many other manufacturers, too numerous to mention, contributed to this plant.

Novoply is unique in its striking appearance. It is currently being produced in 3/8" and 3/4" thicknesses. Two principal types are in current production, one of which has faces composed of pines and firs and is light in color, the other having faces of redwood, which produces a rich dark finish. These faces have high density, are abrasion and mar resistant and give the panel a strength otherwise unobtainable in a low density, synthetic board.

While the panel is not yet offered as an exterior grade product, its moisture resistance is very surprising and is one of the most important control tests run by the fully equipped plant laboratory on all production.

Novoply is now available at United States Plywood warehouses and other market outlets throughout the United States in 4 x 8 panels, and cut sizes up to the full 6 x 12 panel. It is finding major application in the 3/8" thickness as a wall panel not only due to it's decorative nature but also because of it's sound and heat insulating properties. Other uses are in sliding doors where its dimensional stability and freedom from warp make it unique for a product of this density. These same features, together with the fact that both sides have equally high appearance quality, are causing its use for sliding partitions. A very important use for the product is in the manufacture of furniture, either with the natural finish or overlaid with hardwood veneers or plastic laminates. It's three-ply construction makes cross banding unnecessary in veneering operations.

(Concluded on Page 196)

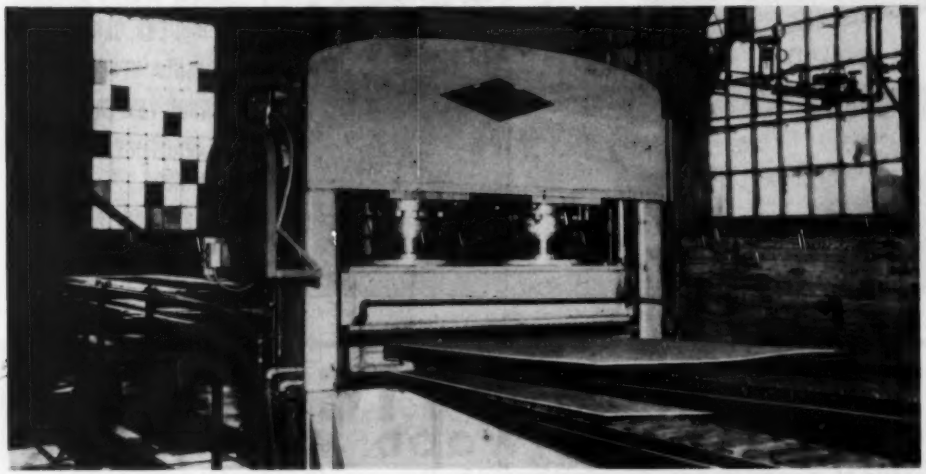
MODERN DUST CONTROL

for Gardiner Plywood Plant

THE new extensive dust collection installation at the Gardiner Lumber Co. plywood plant was designed and installed by American Sheet Metal Works to fit a particular need. Our engineers are experts in solving *any* dust collection problem—and are always available for consultation on new installations or on modernizing present facilities.

AMERICAN
SHEET METAL WORKS, Inc.
Manufacturers of Blowers
920 NE Glisan Portland, Oregon EAst 0111

LAMB *Scarfing Equipment*



ILLUSTRATED here is the latest installation of a LAMB Scarfing Press and LAMB Scarf Jointer, with Lay-up table and conveyor equipment—all in the new Scarfing Department of the Vancouver Plywood Company plant at Vancouver, Washington. Production of scarfed panels with the new LAMB Scarfing Equipment was started in early February.

Note that the whole scarfing layout was arranged to obtain maximum production flexibility. A continuous flow of plywood scarfed panels is possible. Also, independent action of the Jointer and Press is possible. Specifications of equipment: The Jointer is a travelling bed type equipped with *Haywood carbide-tipped cutterhead. The Press is a double opening 16 x 66 inch unit equipped with steam heated platens. For complete details on this installation and LAMB Scarfing Equipment write today!

*Optional at extra cost.

LAMB-GRAYS HARBOR CO., INC.

HOQUIAM, WASHINGTON

Phone: Hoquiam 1000

Write or phone Alder 5755

TALLMAN MACHINERY COMPANY

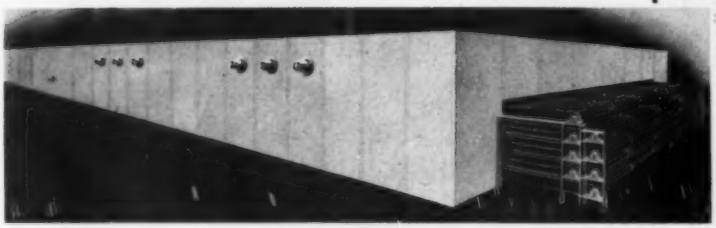
2057 Fifteenth Ave., W. Seattle, Wash.

FACTORY REPRESENTATIVE

COMPLETE GREEN END EQUIPMENT

LATHES

CLIPPERS



DRYERS

★

Also:

CAPITAL VENEER SLICERS, GRINDERS, CLIPPERS.

PENINSULA VENEER HOGS.

JACKSON VENEER CHIPPERS.

E. V. PRENTICE BLOCK BARKERS.

E. V. PRENTICE POND-TYPE FULL LOG BARKERS

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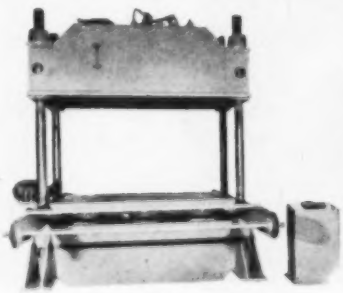
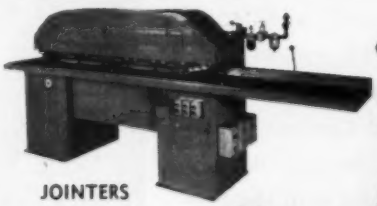


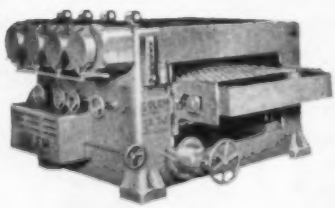
PRESSES



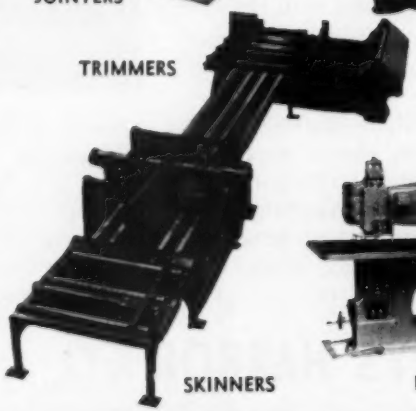
JOINTERS

SPREADERS

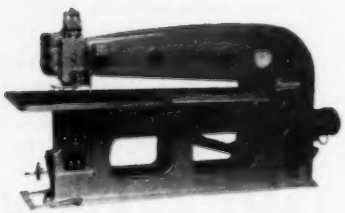
TRIMMERS



SANDERS

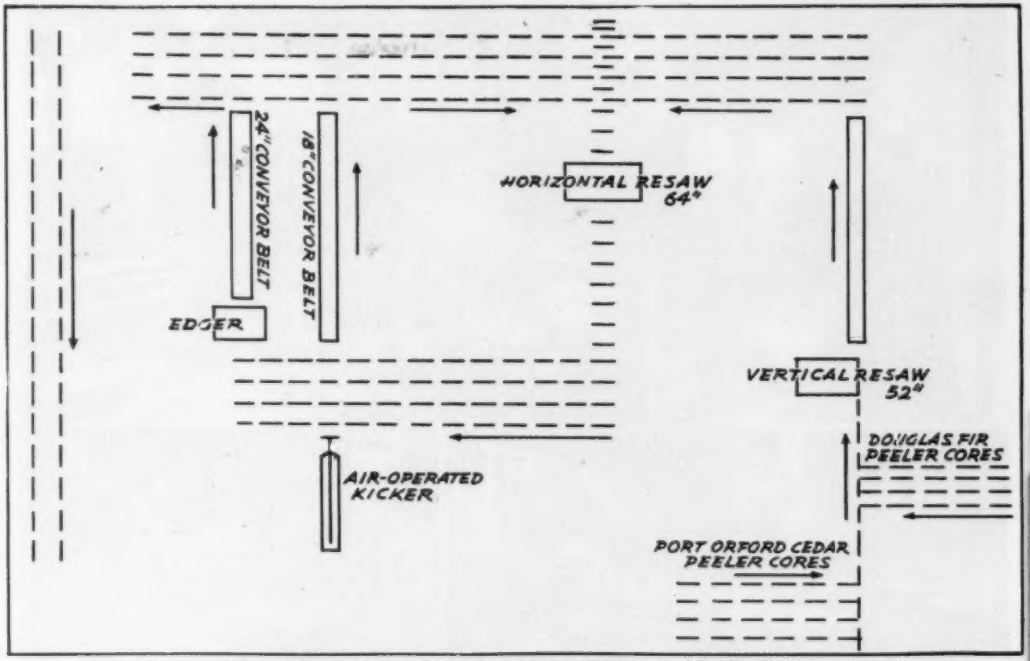


SKINNERS



PATCHERS

COMPLETE DRY END EQUIPMENT



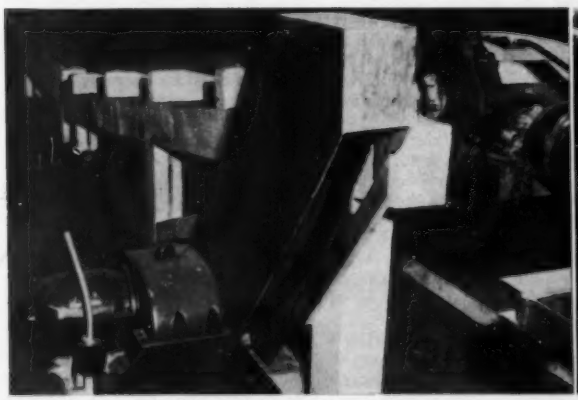
Layout of Coos Bay Lumber Company's peeler core utilization mill at Coquille, Oregon.

PLYWOOD PLANT BUILDS CORE UTILIZATION UNIT.

"How to obtain fullest utilization of that portion of peeler blocks left following removal of the quality, peelable wood in veneer form" is a problem which continuously confronts most veneer and plywood manufacturers using the rotary-cut process.

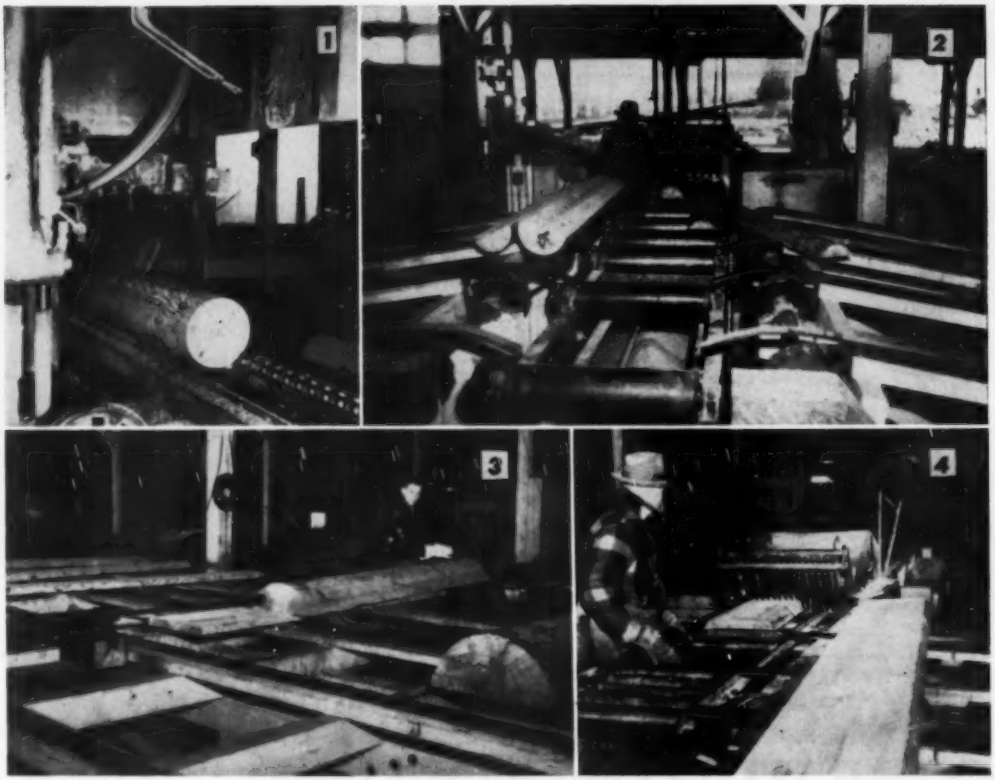
Some operators have developed market outlets whereby the resultant cores can be sold for specialty uses—such as highway market and guide posts—without requiring extensive additional processing. The demand for such products is somewhat seasonal and definitely limited in volume.

Coos Bay Lumber Company's solution to the problems of peeler core utilization has been expediently solved at its Coquille, Ore., operations. Here a utilization department was set up and machinery installed



Westinghouse gearmotor drive at discharge end of transfer between headrig and resaw.

Two carrier loads of end-trimmed studding awaiting removal from the core mill by Gerlinger carrier.



Converting peeler cores into specialty lumber at efficient processing mill of Coos Bay Lumber Company's Coquille, Ore. operations. 1—Port Orford cedar peeler core going through "headrig", which is a 52 in. Yates-American vertical resaw. Note the two-chain carriage which transports the core past the headrig. There is one chain carriage component on either side of the band saw. 2—Feed end of 64 in. Turner horizontal resaw. The core halves from headrig arrive at resaw on transfer at left; at right is transfer of run-around for returning stock requiring additional resawing. 3—Stock requiring additional resawing is pushed from transfer to U.S. rubber belt conveyor by air operated horizontal kicker at extreme left. 4—Converting flitches into 2x4s with small edger.

for manufacturing peeler cores from the plywood plant into 2 x 4 studs.

Although most all of the equipment and machinery used in this utilization department is generally used throughout the lumber manufacturing industry, the actual processing of cores is quite unique. Furthermore, the processing results in remarkably efficient manufacture of quality studs. Even the knots in the lumber derived are small and solid, having grown when the stem was small and the tree young and vigorous.

Cores arrive at the utilization department from two sources—Douglas fir via kiln car trucks from the plywood plant and Port Orford cedar cores from peeled battery separator blocks by chain conveyor.

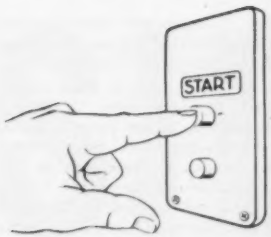
Processing of the cores into lumber starts when they move individually up an inclined chain conveyor leading to a "headrig carriage" consisting of two strands of parallel chain which set a few inches apart. This chain carriage extends from about 30 ft. in front of the band "headrig" —a 5 in. Yates-American vertical band resaw—to a couple of feet behind the bandsaw, one chain at each side of the saw proper. The cores moving onto the carriage cradle themselves between the two chains and are thus carried forward with the chain, the bandsaw cutting through center of the round cores as they pass the saw.

At terminus of the carriage chain, the cores (now in half-round form) move onto a 24 in. U. S. rubber conveyor belt which delivers the stock onto a chain transfer leading to feed table of a Turner 64 in. horizontal band resaw.

All the core halves go through this horizontal resaw at least once, either a two or four-inch flitch cut from face side each time through. Stock discharges from this unit onto conveyor rolls leading to another chain transfer. The two-inch material is transported clear to end of this conveyor which terminates at feed table of a small circular edger built expressly for this special edging work.

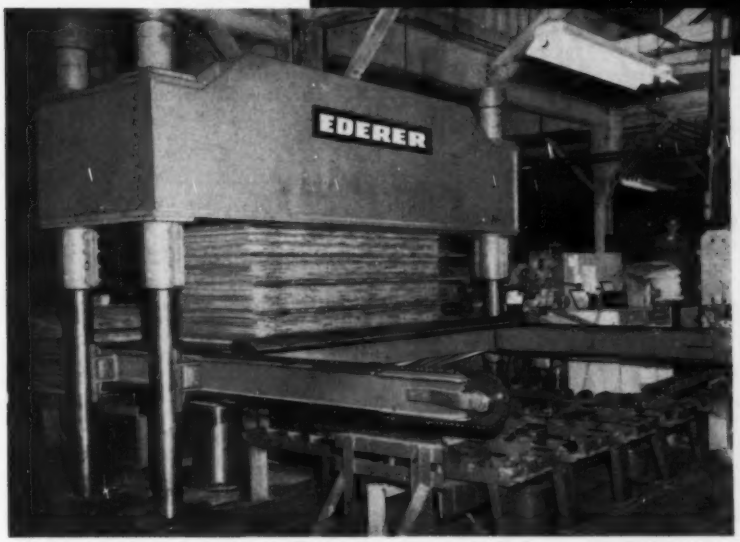
Pieces thicker than two inches are kicked endwise from the transfer onto an 18 in. rubber conveyor belt leading to a transfer returning the stock to feed table of the horizontal resaw. The kicker unit which moves the thicker stock from transfer to belt conveyor consists of a cylinder and piston mounted horizontally at side of the transfer and in line with the conveyor. As air is applied to the cylinder, the piston is driven forward extending the piston rod over transfer, the bumper-end engaging end of the thick pieces and shoving them onto the conveyor belt.

The air-operated kicker is positioned so resultant slabs large enough to manufacture into 1 by 4 in. boards can be pushed from transfer table to the conveyor. These are normally pulled from the belt and piled until the accumulation becomes sufficient to warrant a rerun on this material.



Just push the button once

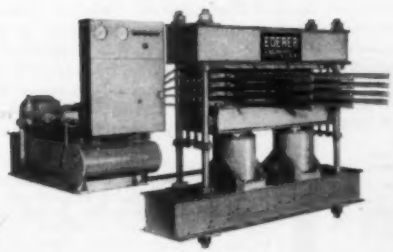
More productive man-hours with an EDERER Automatically operated press



● Single push-button station completely controls loading, pressing and unloading operation . . . press operator is free to do other work from the moment he pushes the button to start load into press until cycle is completed — and next load is ready to go in.

In addition to this completely automatic operation, which makes your manpower more productive, all EDERER cold presses are "job-engineered" to exact requirements of your plant. Capacities from 40 to 1250 tons — platen pressures from 50 to 380 p.s.i. — platen sizes and daylight openings as desired. Loader also leaves platen bearing surfaces free for 100% load contact.

An EDERER engineer will be glad to discuss *your* press requirements — or write for EDERER Press Bulletin V-102



● Make your longer plywood panels with an EDERER hot-plate scarfing press . . . platen size and number of daylight openings to suit your requirements . . . perfect bonding every time.

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EXPORT DIVISION: 301 Clay Street, San Francisco 11, Calif.

Slabs discharging from the horizontal resaw are the remains of a core section from which a 2 in. face was cut while going through the saw. Of course the slab emerges from the saw on top of the flitch and remains there until removed by the kicker, the flitch holding the slab high enough that it is engaged by the kicker.

Slabs too thin for making into the 1 in. boards are pulled from transfer, between kicker and edger, and placed on an 8 in. belt conveyor from which they are sheered onto transfer en-route to a hog for conversion into powerplant fuel.

Flitches arriving at the edger are run to 2 x 4s, except when cutting for 1 in. boards, emerging from edger onto a short 24 in. belt conveyor discharging to transfer chains. This transfer carries the lumber past end-trim saws, where stock is automatically cut to length, and on out to loading station. Here the stock is piled on blocks in carrier loads, the blocks resting on pull-up chains which have capacity for three or more of the load units which are removed by Gerlinger carriers.

Capacity of this core-utilization mill is greater than the supply of cores available from the plant's lathes. Consequently the organization is considering buying 8 ft. farmer logs to round out production.

Power for driving the various processing components: A 50 h.p. Westinghouse motor powers the 52 in. Yates-American band resaw which serves as headrig; 100 h.p. Westinghouse on the 64 in. Turner horizontal resaw; and 40 h.p. General Electric motor powering edger through Dodge V-belt drive. Westinghouse gear motors are used to power the transfers.

Simpson Promotes C. L. Emery

Promotion of C. L. "Les" Emery from assistant general sales manager to the position of general sales manager of the Simpson Logging Company has been announced by C. E. Devlin, Vice President—Sales. Emery was transferred to the Seattle general sales office last fall after having served as Simpson's Eastern Regional sales manager in New York City since 1947.

C. L. "LES" EMERY

Emery has been in sales work for the past 30 years. He was assistant manager of the Wood Mosaic Company's New York sales office for 12 years, and served the Smith Wood Products Company of Coquille, Oregon, as New York salesman until 1945. He was with the War Production Board and with the Civilian Production Administration from 1945 until he joined Simpson in 1947.

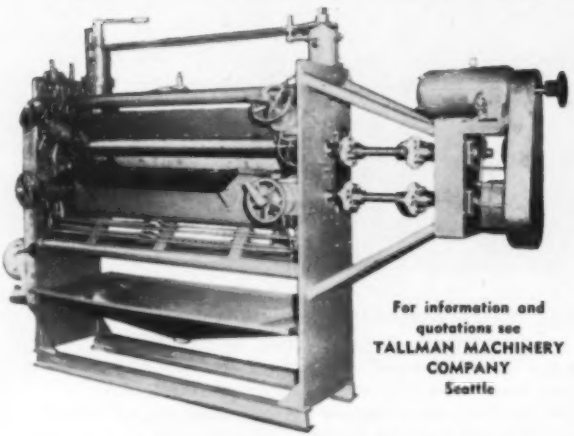
Emery served as chairman of the board of Intercoastal Lumber Distributors Association in New York City last year.

The Simpson Logging Company conducts a national sales program for its lumber, door, plywood and insulation board products. The company's operating plants are at Shelton and McCleary, Washington, and Klamath and Arcata, California.

Organization of the **International Plywood Company** has been effected at Mobile, Ala., with capital authorization of $60,000. The company has a plant on the industrial canal, at Mobile. Officers of the company include: Ezra Skinner, Monroeville, Ala., president; D. H. Scott, Mobile, vice-president; and Andrew M. Wilk, Mobile, secretary-treasurer.

USERS REPORT:

"McFall Pneumatic Glue Spreader gives us REAL SAVINGS in glue"



For information and quotations see
TALLMAN MACHINERY COMPANY
Seattle

The McFall Pneumatic Glue Spreaders are now in a number of West Coast plywood plants. Tensions on glue rolls and doctor rolls are controlled by double-acting air cylinders . . . insuring even pressure, which gives a uniform glue spread on both thick and thin core . . . resulting in glue savings and reduction of core fall down.

FOR QUOTATIONS ON THESE GLUE SPREADERS, CONTACT—

TALLMAN
MACHINERY COMPANY
2057 15th Avenue West • ALder 5755
SEATTLE 99, WASHINGTON

We also represent:
COLUMBIA Plywood, Door and Hardboard Presses
GREENLEE Skinner and Cut-off Saws
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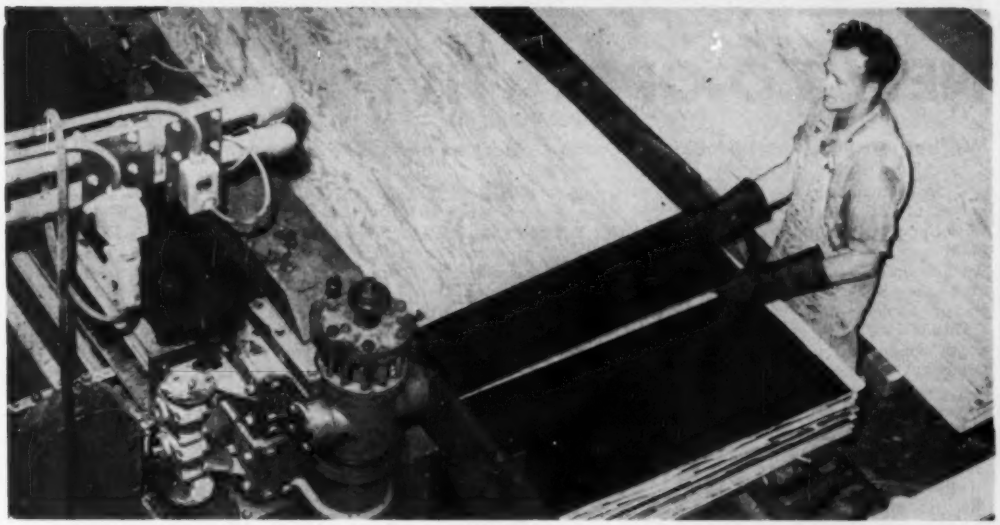
SILVACON

"472"

for HIGH QUALITY, LOW COST Glue Lines



✓ **TOP PERFORMANCE** SILVACON has an excellent record in the plywood field. Dependable and uniform performance at all times.

✓ **ECONOMICAL** SILVACON extended glues are low in cost. Silvacon has chemical characteristics which lend it advantageously to greater extension of adhesives than that achieved with conventional extenders.

✓ **VERSATILE** SILVACON is now approved as an extender for many resins now available to and acceptable to the West Coast Plywood Industry.

✓ **ALWAYS AVAILABLE** SILVACON is made from Douglas fir bark and is a product of the Pacific Northwest. There is an unlimited supply of raw material. Prompt overnight deliveries to the West Coast Plywood trade.

SILVACON is a product of **WEYERHAEUSER TIMBER COMPANY**

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. . . OR YOUR RESIN SUPPLIER

Aerial view of Brookings Plywood Corp. pond, sawmill and plywood plant.

NEW CO-OPERATIVE STARTS

Worker owned firm at Brookings, Oregon, operates plywood plant sawmill and planing mill.

New industry of considerable importance to the extreme Southwestern corner of Oregon started up the first of January, this year, when the $1.5 million Brookings Plywood Corp. plant at Brookings, Ore., went into production.

This is a recently organized firm which bought the Brimm Brothers Lumber Co. plantsite and 45,000-foot sawmill. Since acquiring this property, the present owners have increased size and scope of the lumber manufacturing facilities by addition of a planing mill.

Officers of Brookings Plywood Corp. include Edwin Sund, president and manager—formerly of Myrtle Creek, where he participated in organizing and starting up Fir Manufacturing Co.; William DeWitt, vice president; Terry Connolly, treasurer; and H. C. Mason, secretary.

Mr. Mason figured prominently in construction of the plant, filling the dual role of design engineer and construction superintendent.

Key production personnel of the operations: Niel Martin, plywood superintendent; Guy Way, sawmill superintendent; Harry Foster, logging superintendent; H. C. Mason, maintenance and engineering superintendent; Arthur Knox, traffic and sales manager; Ray Arnett, maintenance foreman; Si Jennings, shop foreman; Noble Ellison, woods foreman; Al. Olson and Gorden Ellison, plywood plant foremen.

Initial operation of this new 3½ million square feet per month plywood plant is exclusively in the production of Douglas fir cold-press plywood, but plans call for addition of hot press and other facilities to bring production to 5½ million square feet per month. Furthermore, the company contemplates manufacturing fancy high-quality plywood from hardwoods—tanbark oak and Oregon's renowned myrtle. Entry into the fancy plywood field is anticipated as soon as Douglas fir plywood production "smooths out".

As a component part of the production plant, the company has its own steam-electric power plant. Steam supply is provided by a Garrett & Shafer 1000 h.p. boiler, and a General Electric 1000 k.w. turbogenerator for the electric power. This powerhouse, constructed on contract by Wyatt & Kipper Engineers, was built with provisions for subsequent installation of an additional boiler and a second and larger generator.

It is intended that by-product wood, in excess required as fuel to provide power, will be utilized as raw product for the manufacture of hardboard.

Plywood production operations of this new organization are contained in a 240 by 400 ft. main plant building with 50 by 180 ft. roofed log deck, the structure built of Timber Structures, Inc. truss construction which was laminated in Portland at Timber Structures plant and assembled at Brookings. Viking automatic sprinkler system fire protection has been installed throughout.

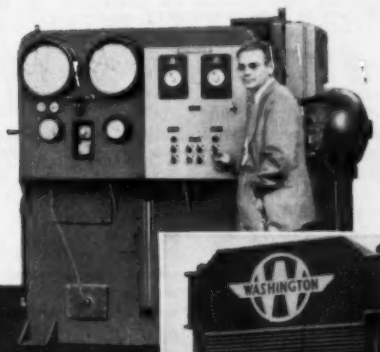
Manufacturing facilities: Peeler blocks, cut out of water to recover sawdust and pond lillies, are barked by an Ederer combination router and spud barker, the blocks handled by a 7½-ton Ederer bridge crane from pond to barker and from barker to the lathe, a Coe unit of 110 in. swing and 113 in. knife length powered by Ajax steam engine. The rotary-cut veneer goes through a Coe clipper to green-veneer tray conveyor equipped with Hewitt rubber belts. One 4-line 18-section Coe veneer dryer currently dries the clipper veneer. A second Coe dryer of same size and capacity is expected to be installed during the coming spring or summer.

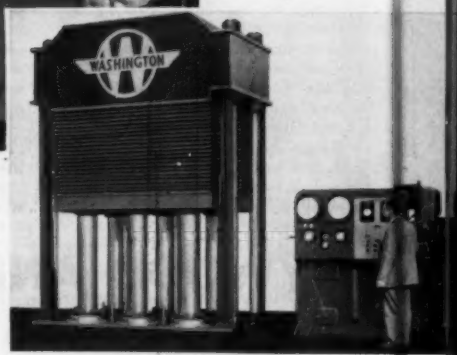
Key personnel of Brookings Plywood Corp.—Left to right: Terry Connolly, treasurer; Niel Martin, plywood plant superintendent; Edwin Sund, president; H. C. Mason, secretary and maintenance-engineering superintendent.

WASHINGTON HYDRAULIC PRESSES

offer high production and automatic operation in a range of types and sizes for

- **PLYWOOD**
- **HARDBOARD**
- **DOORS**
- **PULP BALING**





ABOVE, a new 850-ton Washington plywood hot press shown in open position. Units of this type are now in operation in outstanding western plywood plants.

RIGHT, press in closed position. Controls are fully automatic and adjustable to desired variations of pressure, temperature and timing.

HYDRAULIC PRESSES in a range of types and sizes for plywood, door, hardboard and pulp mill requirements are engineered and manufactured by Washington Iron Works.

Illustrated herewith is the new Washington 850-ton plywood hot press. Similar units are now in operation at several outstanding west coast plywood plants, where they are used for the efficient production of top grades of exterior and plastic-faced plywood. The presses are fully automatic in operation, with adjustable pressure and timing controls. Lukens labyrinth steam platens provide more uniform surface temperature, faster heat-up, and steam economy. Standard opening between plates is 3″ or 4″ with other openings to special order. Combination hydraulic hot presses with closely controlled low pressures are also available for the manufacture of both plywood and plywood flush doors of cellular construction. Other Washington presses, with 42″ x 88″ hot plates, are engineered solely for the specialized production of doors.

Giant hot presses for hardboard processing are another product of Washington design and manufacture. Units range up to 7,500 tons and plate dimensions of 66″ x 202″. Pressures and temperatures are controllable, with automatic timing of operation cycle.

In pulp mills, Washington rapid traverse pulp baling presses are setting new production and economy records. Standard models are up to 2,000-ton capacity and are completely automatic.

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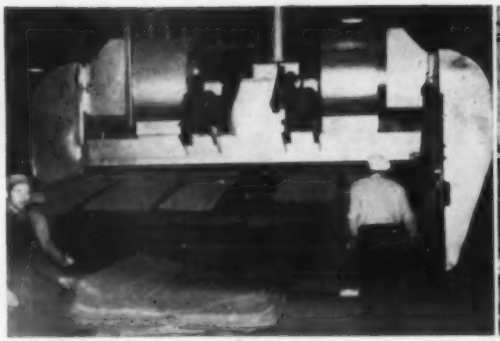
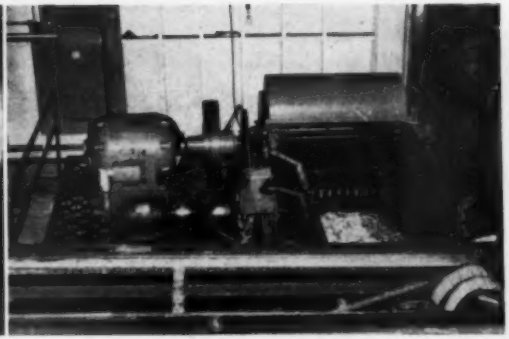


Loading green veneer into 4-line 18-section Coe veneer dryer. A duplicate dryer will be added this spring or summer.



One of two new-type 42 in. Lamb-Grays Harbor roll-feed table veneer hogs in operation at the Brookings plant.

At production inauguration only cold pressed 4 by 8 ft. panels were manufactured, but the company has purchased a 20-plate Columbia hot press for installation in near future. With the addition of this unit, exterior type plywood will also be turned out at the Brookings plant.

Fluckinger glue spreaders are used to apply the bonding agents to core veneer, operating in conjunction with glue-mixing facilities developed at the company shop.

Panel finishing equipment consists of an 8-drum Yates-American sander and Globe skinner and cut-off.

Within the plywood plant itself high utilization of veneer is maintained through use of a Raimann patcher, purchased from E. V. Prentice Co., and other patching machines built in the company's shop.

According to Mr. Mason, all of the plant's transmission equipment—pulleys, sprockets, gears, bearings, troughing idlers, and speed reducers—are Link-Belt; motors and motor controllers, Allis-Chalmers; and pumps built by Pacific-Dayton-Dowd.

Two of the new-type 42 in. Lamb-Grays Harbor veneer hogs with roll-feed table are used to convert scrap veneer into suitable fuel for the power plant.

Two Gardner-Denver compressors provide compressed air throughout the plywood manufacturing operations and an American Sheet Metal Works blower system provides complete dust collecting facilities.

This plywood firm owns a considerable volume of timber tributary to the plant, in the main doing its own logging supplemented by some contract logging. Peelers are also purchased in the local log market.

One of the Brookings Plywood officers points out that this is a co-operative corporation with 250 stockholders. He says, "We feel this organization is a tribute to what a lot of small business men and workers can do. It has built Brookings into a prosperous community; has increased individual and over-all earnings and there have been no shutdowns and no labor difficulties."

PLYWOOD AND VENEER CEILING PRICES

Ceiling prices on western softwood plywood and veneer have been established by the OPA. The spelled out ceilings are for standard grades and dimensions of plywood made of Douglas fir, west coast hemlock, noble fir, white fir, ponderosa pine, Idaho pine, sugar pine, western red cedar, redwood, Englelmann and Sitka spruce. The ceilings became effective February 4 and apply only to sales made in the United States, and are FOB for direct mill sales. Ceilings on less than carload lots are 10 percent higher than on carload sales.

The ceilings are as follows:

DOUGLAS FIR PLYWOOD:

	Ceiling Prices per 1000 sq. ft. Sound 2 sides	Sound 1 side
Interior, ¼" 3-ply sanded 2 sides	$124	$ 97
Exterior, ¼" 3-ply sanded 2 sides	136	109
Interior, ¾" 5-ply sanded 2 sides	242	215
Exterior, ¾" 5-ply sanded 2 sides	266	239

DOUGLAS FIR, WESTERN PINE, WESTERN HEMLOCK PLYWOOD:

	Unsanded
Interior sheathing, 5/16" 3-ply	$ 79
Interior sheathing, 5/8" 5-ply	138

Coming Industry Meetings

Intermountain Logging Conference, Spokane, Wash. March 24-26.

Northwest Wood Clinic, Spokane, April 1-2.

Southern Pine Assn., New Orleans, La. April 7-8-9.

Olympic Logging Conference, Victoria, B. C., April 17-18.

Texas Lumber Manufacturers Association, Lufkins, Texas, April 19.

Willamette Valley Logging Conference, Eugene, Ore., May 1-3.

Redwood Region Logging Conference, Eureka, Calif., May 23-24.

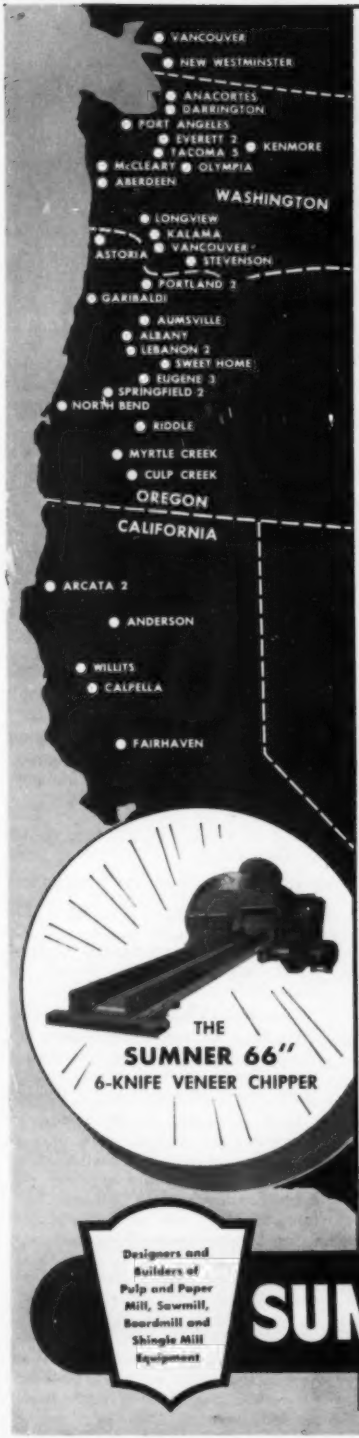
Douglas Fir Plywood Association, Gearhart, Ore., June 3-4.

Pacific Logging Congress, San Francisco, Calif., November 10-12.

Western Forestry & Conservation Assn., Victoria, B. C., December 10-12.

DOUGLAS FIR GREEN VENEER:

1/10", face $30.30, core $10.10
⅛", face $36.00, core $12.00
1/6", core $16.00
5/16", core $18.30
½", core $19.70



44 Sumner Veneer Chippers

ARE NOW INSTALLED* IN

WEST COAST PLYWOOD PLANTS 23 IN 1951!

THE profitable conversion of veneer rejects into clean, uniform pulping chips can become big business for you, as a plywood plant operator.

It is significant that 44 of the leading plywood plants of the West Coast of the U. S. and Canada (see map)—through the installation of a SUMNER 66" 6-knife Veneer Chipper—have found a consistent market for chips among nearby pulp mills and board mills.

Of particular significance is the fact that 23 of these Chippers—or over half—were installed in 1951! It reflects the widespread acceptance *today* of the SUMNER Veneer Chipper as a standard part of the production chain in this growing industry.

SUMNER is the *original* and the *leading* manufacturer of Veneer Chippers. Installation, operation and maintenance costs have always been nominal.

We invite you to call, wire or write for further details.

*or are shipped for installation

Designers and Builders of Pulp and Paper Mill, Sawmill, Boardmill and Shingle Mill Equipment

ESTABLISHED 1892

SUMNER IRON WORKS

EVERETT, WASHINGTON

"WHAT IS IT-- SOME SORT OF HARDBOARD?"

By E. L. CROSTON

Chief Engineer—Versatile Products, Inc., Anacortes, Wash.

Quite a question, isn't it? And an important one to a steadily growing industry whose products seem to have outgrown the cramped nomenclature of "hardboard," "semi-dense hardboard," "coreboard" or "don't-know-what-to-call-it."

Keenly realized by many in the industry, and at least sensed by everyone associated with utilization of forest products, is the welcome approach of many forms of synthetic lumber products. And, by the very nature of a synthetic form of lumber, the opportunity is presented to tailor-make these products to best suit their application. But these applications appear to be veritably limitless, which would seem to indicate a limitless variety of synthetic lumber products as the coming attraction.

To be truly attractive, however, an infallible means of identification of these products is a must, and the suggestion here is to depart from the presently cramped and awkward means of identifying a product by means of adjectives only. Trade names alone, however necessary and desirable for the merchandising of the product, cannot so briefly describe a synthetic lumber product as is possible with more easily defined material such as plywood and lumber. And, beyond perhaps a selected few basic forms of synthetic lumber, it seems impractical to attempt to standardize all forms of this product in a recording by our U. S. Bureau of Standards.

Any means of identification acceptable to the board manufacturing industry and that very important part of industry—the customer—must be completely flexible and expandable in its application, but rigidly capable of only one interpretation in its reading. Various interpretations of the term "Hardboard" have led to somewhat unjust comparisons between various wet and dry process board products from relatively new and old producers in existence, without due considerations of points of merit in each.

Since the characteristics which differentiate one synthetic lumber product from another are basically of a technical nature, it seems difficult to propose a means of identification which avoids a technical basis, but it is thought, by the writer, that a coded numerical system of board specification could be utilized whereby all products under a general heading of Synthetic Lumber may be identified. A Code number could represent, in an established order of general importance, all variable factors of the product. The length and complexity of the numerical specification could be to the extent required by the manufacture and application of the product, but in usual form of six or eight numbers and figures could be easily printed, listed and accounted in the handling of paper work pertaining to manufacture and sales. To establish a master code for the use of such a system, it is suggested by the writer that a published guide be made available to the industry by the Bureau of Standards or one of the industries' societies.

The coded numerical specification, as suggested here, would consist of the following order and coded equivalent:

First Figure—S1S or S2S to designate a smooth faced one side or both side condition.

Second Figure—Thickness in thousandths of an inch.

Third Figure—Weight per cubic foot.

Fourth Figure—M or L or C to designate whether monostructure, laminated or coated in character.

Fifth Figure—Flexural strength: Modulus of rupture in hundreds of pounds.

Sixth Figure—Percentage of water absorption in 24 hours at 70° F.

Many more code figures or numbers may be added to this list and their equivalents recorded in the published form, but should be kept in a reasonable order of importance to avoid too lengthy specifications for ordinary use.

An example of use of the coded numerical specification, a certain (theoretical—I assure you) product could be shown as:

S1S - 250 - 61 - M - 52 - 18

where reference to the foregoing code would identify the product as having a smooth surface on one side only, one quarter inch thick, weighing 61 lbs. per cubic foot, of monostructure character, having flexural strength of 5200 P. S. I. and an 18% weight absorption in 24 hour immersion in 70° F. water.

For benefit of government and private bid invitation concerning need for a product of certain ideal characteristics for an application as determined by architectural or engineering work, a specification could be shown as:

$$\text{S1S} - \frac{250}{257} - \frac{60}{61} - \text{M} - \frac{51}{53} - 18$$

where it would be readily understood that tolerance is allowed on some factors, and not on others.

Code figures could be added, where necessary, to represent factors of shear strength, tensile, hardness, color, fire resistance, insect repellance, chemical resistance, P H, etc.

It is not hoped, in the foregoing suggestion, to propose more than a basic method of coded identification to replace, at least to a large degree, a meaningless system of nomenclature, to allow the use of a single (even if more general) name for all of the present board products and those to come. Perhaps the writer's use of the term "Synthetic Lumber" is objectionable to some, if not all, of the industry and a better one could perhaps be suggested, but from here it looks like we are stumbling (?) on the threshhold of a new lumber industry.

During the past year the matter of nomenclature and grades has been discussed in hardboard circles. The view has been advanced that hardboards are being produced that are not actually hardboard in the commonly accepted meaning of that word. They have been termed "mavericks" or "specialties." There appears to be a feeling that a clarification of terms and grades would be helpful all around. Right on this subject comes the accompanying statement by E. L. Croston, chief engineer, Versatile Products, Anacortes, Wash., a new company just bringing out a new hardboard product.—Editor

It's here . . . the first really new dryer for plywood veneer to make its appearance in the field for fifteen years. A product of Proctor engineering, the new dryer, to be known as the Type-D (4 Run), is completely new in design, yet *based on proven principles* of Proctor standard cross air circulation.

CAPACITY TO SUIT INDIVIDUAL REQUIREMENTS . . .

Planned for unit construction this system provides for capacities to suit individual plant requirements. Regardless of the machine's capacity—it is so designed that jam-ups of veneer are eliminated.

NEW CONVEYOR DESIGN . . .

A series of unique conveyors provide for carrying veneer through the drying enclosures in four runs simultaneously. An entirely new design provides conveyors of extremely sturdy, but very open construction. This new feature permits maximum circulation of heated air to reach the surface of the veneer —and at the same time holds the veneer perfectly flat during drying.

VERSATILE OPERATION . . .

The new machine offers versatility of operation in that veneer may be fed either endo or cross-grain.

BACKED BY PROCTOR GUARANTEE . . .

The new Type-D (4 Run) Dryer is the culmination of years of painstaking research and development on the part of Proctor engineers to perfect a drying system that will meet every requirement of the plywood veneer industry. It is carefully engineered and backed by Proctor & Schwartz guarantee—and long experience in designing drying equipment for the veneer industry.

For more detailed information on the completely new Proctor dryer for plywood veneer—write today to Proctor & Schwartz, Inc., Philadelphia 20, Pa. or E. V. Prentice Company, 2303 North Randolph Avenue, Portland 12, Oregon. Proctor West Coast representative.

Much Proctor Drying Equipment and Textile Machinery is covered in full or in part by patents or patents pending.

PROCTOR *Dryers for Veneer*

PROCTOR & SCHWARTZ · INC ·
666 TABOR ROAD · PHILADELPHIA 20 · PA ·

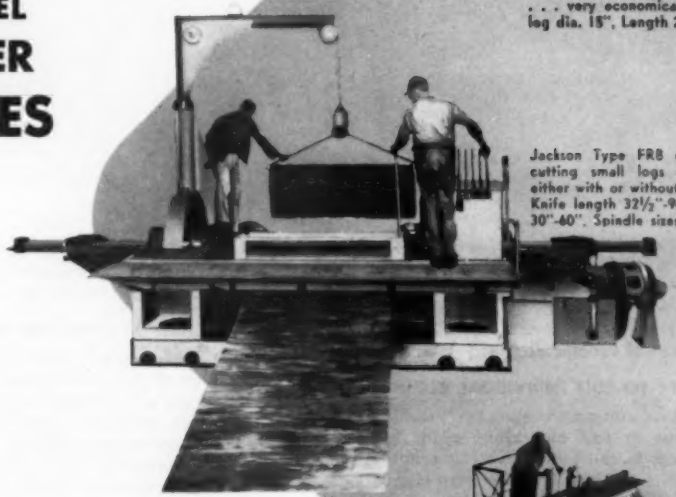
PROVEN PERFORMANCE

In Any SIZE RANGE!

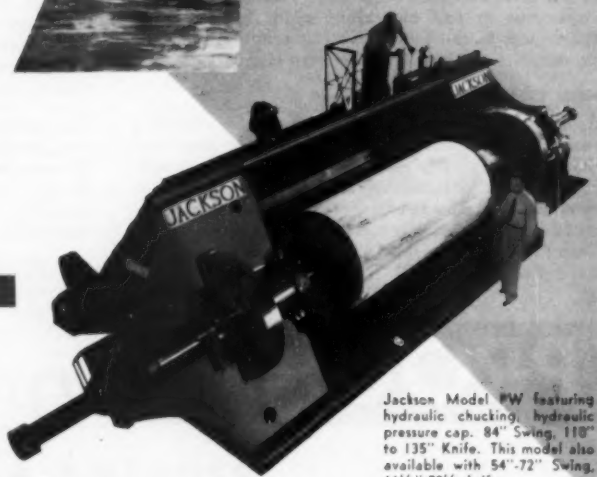
JACKSON

ALL-STEEL VENEER LATHES

"LILLIPUTIAN JACKSON" made especially to cut small logs and cores at high speed . . . very economically. Max. log dia. 15", Length 27 to 38".



Jackson Type FRB made for cutting small logs or cores, either with or without backroll. Knife length 32½"-90". Swing 30"-60". Spindle sizes 3"-6"



Jackson Model PW featuring hydraulic chucking, hydraulic pressure cap. 84" Swing, 110" to 135" Knife. This model also available with 54"-72" Swing, 66½"-78½ knife.

SALES ENGINEERS

E. V. PRENTICE CO.

2303 N. Randolph Ave.
PORTLAND 12, OREGON
Telephone TUxedo 5027

JACKSON INDUSTRIES, INC.

VENEER MACHINES DIVISION
BIRMINGHAM, ALABAMA

INTEGRATED PLYWOOD AND HARDBOARD OPERATION

A major producer of hardboard in Canada is Canadian Forest Products Pacific Veneer Division, whose imposing and highly efficient plant is located near New Westminster, B.C.

The hardboard operation is combined with a large plywood manufacturing plant which customarily produces about 100 million square feet of this material, although the exact output total is hard to determine since a substantial amount of veneer is shipped to the company's subsidiary in Bellingham, Wash. for further processing.

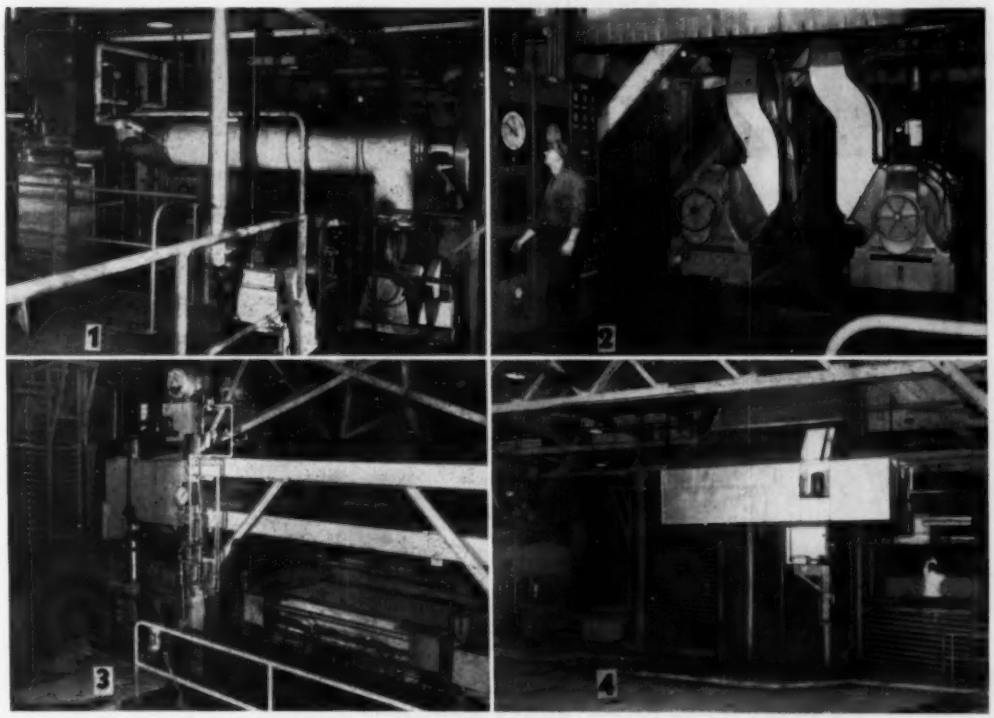
Hardboard expansion was the major development, however, during the past year, this being accomplished through the installation of new equipment—mostly duplicating machines already in operation—which virtually doubled the plant's capacity, now rated at approximately 120,000 feet of quarter-inch hardboard daily.

New equipment included a D type Asplund refiner manufactured by American Defibrator Co.; a Sprout-Waldron refiner; a hardboard press with pressure of 700 lbs. to the square inch, built by Vancouver Engineering Works; a forming line made by Durand Machine Works and conditioning and heat treating chambers built by American Defibrator Company.

Canadian Forest Products has had an almost startling record in the industry. Little mare than ten years old, the company is one of the largest timber holders and manufacturers of lumber, plywood, hardboard and shingles in British Columbia, and recently entered the pulp field by acquiring a majority interest in Sorg Pulp Co.'s unbleached kraft mill at Port Mellon which has since been modernized and improved to operate under the name of Howe Sound Co.

President of the company is John G. Prentice; vice-president, L. L. G. Bentley, both of whom came to this country from Europe with Mr. Otto Pick who with associates organized the company. W. E. Burns is sales manager and D. M. Zilm general superintendent.

The hardboard plant has been in operation since the summer of 1948, when production was only about 25 percent of what it is today. Practically all the veneer not suitable for plywood production and formerly burned is fed to the hardboard plant. This veneer, well clipped and practically free of bark, moves to the hardboard plant from three plywood lathes by belt conveyor, where it is



1. D-Type Asplund refiner at Canadian Forest Products hardboard plant, Capacity is 40 tons per 24 hours. The machine is manufactured by American Defibrator Co., 250 h.p. 2. Sprout-Waldron refiners from control deck, with 400 horsepower synchronous motor. 3. No. 2 forming line at the hardboard plant, showing deckle box with slurring, just before most of the water has been sucked out. 4. Forming line showing hot and cold presses with workmen checking board weight in background.

passed into a 66 inch Sumner chipper to be reduced to ¾ inch chips. After screening, the suitable chips are conveyed to two hoppers.

The Chapman process is followed in the manufacture of Pacific Veneer (P.V) hardboard. Until the recent expansion program was carried out, there were two Asplund systems, side by side, converting the veneer chips into pulp which was further refined in a Sprout-Waldron refiner. The pulp then passed through a concrete machine chest to the board-forming apparatus and thence to the hot press, after which the panels were humidified to stabilize their moisture content, trimmed to accurate size and graded.

The new single Asplund system has a much higher capacity equivalent to the total pulp output of the two machines previously installed. It is followed by another large Sprout-Waldron unit, a second 20-opening hot press and humidifier.

Total power required to convert the veneer into hardboard is about 1200 horsepower, or 30 horsepower per ton of finished product. It takes the veneer chips in the Asplund hoppers roughly one half to three quarters of an hour to be pulped, refined and pressed into board form.

In the initial stages of the process the wood chips flow downward in each hopper equipped with a vibrator to make them pass in a steady uninterrupted stream. A conical feed screw compresses the chips in a constructed throat to form a continuously moving plug of sufficient density to resist a blow-back from the pre-heater. Moving forward, the chips are kept from revolving with the screw by means of splines in the throat, while water from the chips is pressed out through drain holes. In this way the chips enter each cooking chamber, or preheater, at approximately the same moisture content.

The chips are then forced and packed into a plug pipe, conical in shape to permit expansion and freer movement forward. When the plug of chips emerges from the plug-pipe opening in the pre-heater, it is picked up by an auger and conveyed the remaining distance through the horizonal pre-heater, where it is hit by a jet of steam and falls apart. The steam pressure varies from 125 p.s.i. to 175 p.s.i., and cooking of the chips starts at once. Cold water is also added, and this condenses a small amount of steam to form additional moisture.

From the horizontal heater the chips fall into the vertical section and a screw conveyor takes them into the Defibrator chamber. Heating time of the chips in the preheater varies up to three minutes, depending on rate of production.

The Asplund Defibrators carry the process from there and then the Sprout-Waldron refiners, where further rotary grinding takes place. The additives such as Paracol, caustic soda, white water and phenolformaldehyde resin are then introduced into the pulp slurry by means of a regulatory system, consisting of tanks governed by a DeZurik consistency regulator

Before being pumped to machine chests the pulp is subjected to freeness and consistency tests. Sulphuric acid and alum are added to the pulp as it is agitated in the machine chest, these chemicals precipitating the resin and wax around the fibers and improving the quality of the hardboard.

The machine chest is maintained at a constant level and feeds a rectangular metering box. When the latter contains the amount required for the manufacture of a single hardboard panel the flow is automatically

(Concluded on page 164)

NOW
A PRODUCTION LINE BARKER
For Plywood, Pulp and Short-log Saw Mills
THE NEW NICHOLSON 52-Eleven
Speeds up valuable barking and log handling time . . . direct automatic loading from log haul, through Barker, then to next operation via conveyor, eliminating the overhead crane. Actually puts log handling on a Production Line basis. Low initial investment . . . Guaranteed no wood loss.
INCREASES PROFITS • FAST • EFFICIENT
A PROVEN MACHINE PRODUCING NOW FOR:
Everett Pulp & Paper Co.
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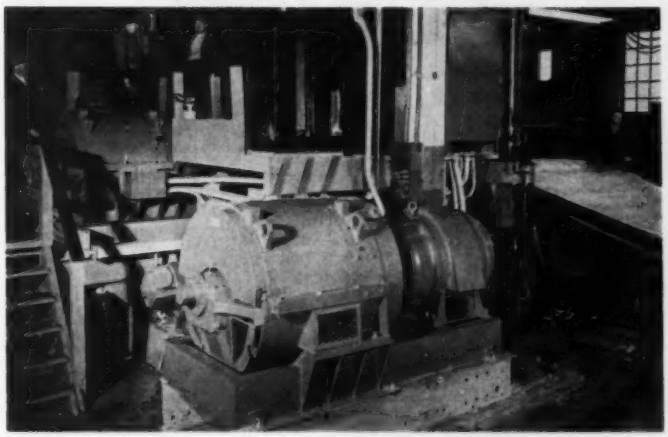
If you have a barking problem ask us to check it . . . at no obligation of course
NICHOLSON MANUFACTURING COMPANY
OFFICES: 1506 Eleventh Ave. CApitol 0330 Seattle 22, Wash.
Designers and Builders of Complete Line of Log Barking Equipment

Another HILLMAN ELECTRIC DRIVE

THERE is an "ALL ELECTRIC" Drive to suit your needs . . . . offer you smoother performance . . . reduce maintenance time and expense . . . . and virtually eliminate variations in veneer thicknesses.

Whether Your Mill Is

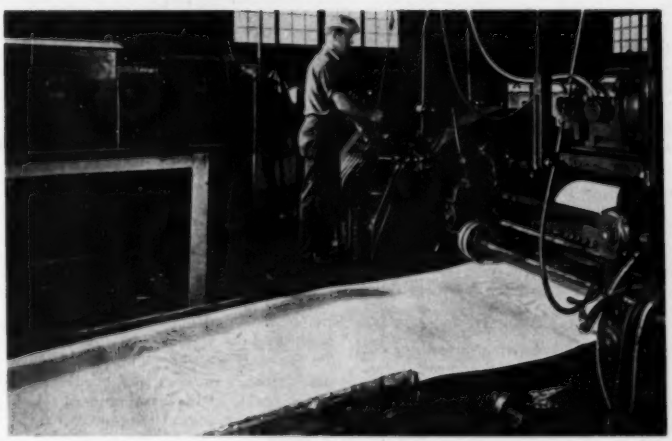


BIG

"ALL ELECTRIC" Drives have proven themselves on many of the largest and fastest lathes on the Pacific Coast. Peeling speeds up to 600 feet per minute are available with smooth operation at any speed.

or SMALL

Several of the smallest of core lathes in the Douglas Fir region are now powered by "ALL ELECTRIC" Drives. These drives are custom engineered to satisfy your particular performance requirements.



C. KIRK HILLMAN CO.

MANUFACTURERS OF ELECTRIC DRIVES FOR:

SAWMILL CARRIAGES • PLANER ROLLS • VENEER LATHES

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Time Saver for Loading Veneer Lathes.

Ederer hydraulically operated lathe-charging crane with peeler block pre-positioned ready for loading lathe in background. Universal motion of this unit—made possible through Vickers valves, pumps and fluid motors, Hannifin hydraulic cylinders, and Aeroquip flexible hose and couplings connecting these components—permits independent movement of each end of the block to line up chucking points with cross-beam lights projected on each end of the block.

In making veneer by rotary-cut process, the peeler blocks must first be chucked and then converted to cylindrical shape on the lathe before "getting down to pay-dirt." Those portions removed in converting the peeler to this shape are nearly all unacceptable for making into plywood. Axiomatically, the more cylindrical the shape of the peeler block, the more veneer can be obtained from a block of any given size when converted to veneer via lathe—providing the cylindrical block is chucked at center of each end.

This chucking process, regardless of shape of block, is an important factor and concerns every peeler block going into a lathe. The chucking factor not only affects the amount of veneer realized from a given block but also the amount of veneer produced over a given period of time. Lathes are non-productive while peeler blocks are being chucked—the pay-off follows chucking and the subsequent peeling down to the point where the block becomes cylindrical in form.

Obviously, utilization is upped by optimum chuck location at each end of every block. Performing this operation in the shortest possible time increases the amount of time available for actual production.

Vancouver Plywood Co., Vancouver, Wash., did something about reducing amount of time consumed by chucking and also about positioning of chucks at optimum point for each peeler block. This organization installed a lathe-charging unit whereby each peeler block can be unhurriedly inspected and precisely pre-positioned while the preceding block is processed into veneer at the lathe. After turning the block until only the core remains, the chucks retract, dropping the core into a conveyor, and the pre-positioned peeler blocks moves horizontally into the lathe at such position that the chucks enter the block ends at predetermined points.

J. B. Power, secretary and general manager of Vancouver Plywood, conceived the idea of such a machine. To his staff members and some key plant employes he gives credit for considerable of the development beyond the incubation stage.

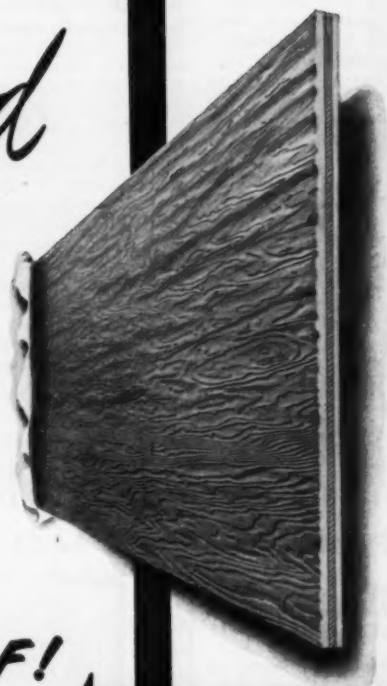
Ederer Engineering Co., Seattle, engineered and manufactured this lathe-charging crane, which is the first of its kind. According to the manufacturers, this unit enables operators to materially increase the amount of in-production time at the lathe and also makes possible the pre-positioning of a block for chucking while the preceding block is turned in the lathe.

With the Ederer lathe-charging crane, the peeler block is first picked up from a transfer, which brings blocks from barker to charger, by two end-grasp clamps which are mounted on a horizontal clamping bar. The block is next centered for chucking by means of cross-line lights projected to each end of the block.

Universal motion for precise positioning of the block is made possible through use of Vickers valves and pumps, Hannifin hydraulic cylinders, Vickers fluid motors, and Aeroquip flexible hose and couplings connecting these components.

After optimum chucking points for each end of the block are spotted at intersection of the cross lights, the peeler is ready to be advanced to the lathe as soon as the core from preceding block drops from the chucks. In charging the lathe, the crane moves forward on its own over-head tracks and comes to a stop at a predetermined point, bringing the block into position where the lathe chucks are directly in line with the pre-selected chucking points.

Why You Should Stock ETCHwood



Stock ETCHwood for sure profits! The amazing texture and versatility of this three-dimensional plywood paneling makes it first choice with architects, builders and home owners. Its raised, oak-hard surfaces fit any decor, modern or early American, casual or formal. Be sure you have an adequate stock of Etchwood now...your customers will be ordering more and more of it for hundreds of interior and exterior uses!

IT SELLS ITSELF!

You can SEE and FEEL the Difference!

DISTRIBUTED NATIONALLY THROUGH LEADING PLYWOOD JOBBERS IN THE FOLLOWING CITIES:

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Branchville, Md.	Kansas City, Mo.	Port Newark, N. J.
Buffalo, N. Y.	Lafayette, La.	Reno, Nevada
Charlotte, N. C.	Lake Charles, La.	Richmond, Va.
Chicago, Ill.	Little Rock, Ark.	Salt Lake City, Utah
Cleveland, Ohio	Los Angeles, Calif.	San Diego, Calif.
Dayton, Ohio	Louisville, Ky.	San Francisco, Calif.
Denver, Colo.	Manchester, N. H.	South Boston, Mass.
Detroit, Mich.	Memphis, Tenn.	St. Louis, Mo.
Fargo, N. D.	Miami, Fla.	St. Paul, Minn.
Fresno, Calif.	Milwaukee, Wis.	Tacoma, Wash.
Ft. Worth, Texas	Mobile, Alabama	Tampa, Fla.
Grand Rapids, Mich.	Nashville, Tenn.	Tulsa, Okla.
Hammond, Ind.	New Orleans, La.	

For more information, descriptive literature and the name of your distributor, write direct to manufacturer:

Davidson PLYWOOD AND LUMBER CO.

3136 East Washington Boulevard
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CREATORS OF DRAMATIC, VERSATILE PRODUCTS!

When the chucks are advanced, the charger's grasping clamps retract and the crane returning for the next block—completing the charging cycle which takes less than 60 seconds.

At the Vancouver plant, lathe loading operations are entirely handled by the lathe helper, leaving tippleman free to carry on at his operating station. The helper chalk marks optimum chuck location on both ends of each peeler block as it approaches the charging crane via transfer chain.

New barking and peeler-block handling facilities have been installed ahead of the lathe at this plant. Peelers, cut to block length, are hoisted vertically from the log pond by an Ederer monorail unit built especially for this application. Here the vertical lift from water level to mill deck is about 40 ft. The Ederer hoist has 2-speed operation, a high-speed motor for fast empty return and a conventional speed motor for hoisting.

The monorail transports the blocks directly to an Ederer scraper-type barker, placing the blocks in a hydraulically operated cradle. Just by vertically positioning this cradle, the barker operator centers the block for chucking and barking. When bark free, the block drops back into the cradle which then tips the block onto head end of transfer chain leading directly to the lathe charger; the transfer performing the dual function of storing and transporting the barked blocks.

Integrated Plywood

(Concluded from Page 160)

checked and the pulp passes into a deckle box, resting on a continuous screen through which the water is drawn and later re-used as white water in the process.

The wet lap is three to four inches thick for ¼ inch hardboard and a proportionately lesser thickness for $^{3}/_{16}$ inch and $^{1}/_{8}$ inch hardboard. The wet lap is about four feet by eight feet in size. As soon as the wet lap has formed, the deckle box rises and the screen moves ahead, carrying the spongy wet mass under a cold press, operated by oil pressure, which reduces the sheet to the desired thickness. As the fibre mats emerge from the cold press they are then automatically sprayed with Paracol to give a shiny, hard surface. The fibre mats are automatically loaded into the hot presses by individual screen belts and are then pressed for a specific time under high temperature and pressure, the complete cycle—loading, pressing and unloading running up to fifteen minutes, depending on the panel's thickness.

The panels emerging from the hot press have their finished appearance, but are not ready for use because of their bone-dry condition. They spend many hours in a humidifier to stabilize their moisture content at from 5 to 8 percent. Rough-edged hardboard panels then pass through trim saws which precision cut them to a standard panel four by eight feet. They are then graded by inspectors.

Canadian Forest Products' hardboard is marketed under the familiar PV label, the letters standing for Pacific Veneer.

About 45 percent of the product is sold in the Canadian domestic market and 55 percent is exported, mostly to the United States.

Seeding by Plane

Use of an airplane to seed 1300 acres into loblolly pine in 7½ hours was effected by Crossett Lumber Company, Crossett, Ark. A total of 23,000,000 seeds were dropped from a training plane that had been converted into a cotton duster. The seeds were mixed with sawdust to obtain better spreading. The areas to be seeded were marked for the pilot by smoke, fires for which were set at synchronized time through the use of radio.

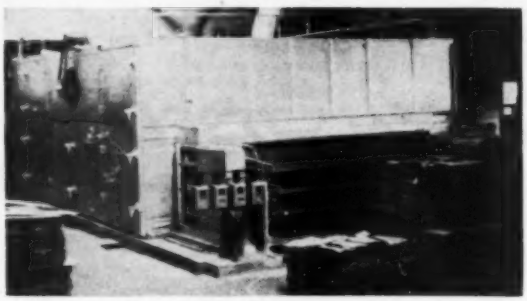
MOORE

Cross-Circulation ROLLER VENEER DRYERS GIVE YOU

THESE FEATURES:

1. Rapid cross air circulation gives more uniform heat distribution in the dryer.
2. Moore fans give greater air circulation, a cleaner dryer, and less fire hazard.
3. Ventilation is distributed as required in the dryer to maintain proper schedules.
4. Moore Cross-Circulation Roller Veneer Dryers are a better investment because they give a larger output of higher quality Veneer at lower maintenance cost.

Write for information today on new dryers or increasing the capacity of old dryers.



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MOORE DRY KILNS

CROSS-CIRCULATION — INTERNAL FAN SYSTEM

The exterior plywood that is always smooth . . .

PICTURE STORY

The home pictured above, on beautiful Gravelly Lake near Tacoma, Washington, demonstrates how architects are turning to Welchboard for interiors and exteriors alike. Lap-siding, gables, and porch-soffits were built with Welchboard. On the interior, ceilings are Welchboard's convenient, large, easy-to-use panels.

WELCHBOARD is the exclusive, surfaced plywood that is equally excellent for *interior* and *exterior* construction. Panels and siding are both factory-primed, require but two coats of paint for excellent finish. Welchboard assures you of minimum waste, as there is no end-splitting. Wider weather exposures for exterior wall construction (up to 15″) save on application cost. And Welchboard is available in thicknesses of ⅜″, 7/16″, ½″, ⅝″, and ¾″ to give you maximum service in the strength required for each purpose.

For information on uses of Welchboard in wainscot work for interiors of schools, churches, and lodges . . . for boat decking, bulkheading, commercial and residential building, send for our free booklet "The New Welchboard."

WEST COAST PLYWOOD COMPANY

Box 1180, Aberdeen, Washington

Manufacturers of "Tru-Bilt" Exterior-Type and Interior-Type Douglas Fir Plywood

SIERRA-CASCADE LOGGERS

HOLD "GOODWILL" AND "GOOD LOGGING" THIRD ANNUAL CONFERENCE

Officers, left to right: Jack Berry, re-elected secy.-treas., James Garrett, Collins Pine Co., 1953 pres., Herb McMahon, Ralph L. Smith Lbr. Co., 1952 pres., Henry Ghiglieri, 1953 vice-pres., N. E. Gurney, Sierra Tractor & Equipment Co., chairman of equipment committee.

Almost 1,000 people attended the third annual Sierra-Cascade Logging Conference at Anderson, Calif., Jan. 31-Feb. 1-2. Theme of the conference was "Good Will and Good Logging".

James Garrett, logging superintendent, Collins Pine Co., Chester, Calif., was elected president of the 1953 conference; Henry Ghiglieri, logging superintendent, J. T. McDonald Logging Co., Anderson, was elected vice-president and Jack S. Berry, Sacramento, was re-elected secretary-treasurer.

Under the direction of Herbert McMahan, Ralph L. Smith Lumber Co., Anderson, president of the 1952 conference, the program flowed smoothly along. McMahan pointed out that it was the duty of the lumberman to leave an adequate supply of lumber for the future; that it was the duty of the lumberman to consider the safety of his employees, and finally that it was his duty to realize a fair profit from his investment in his logging operations.

Waldron Hyatt, manager, Hammond Lumber Co., Samoa, Calif., the president of the 1952 Pacific Logging Congress, invited all those present to attend that event in San Francisco in November.

A featured speaker was E. D. Bransome, president, Mack Motor Truck Corp., New York, who said that truck legislation should be based on scientific engineering principles, and truckers should not be expected to pay more than their share of costs. He pointed out that intelligent trucking associations were cleaning up their own houses.

Speaking for the lumber industry on "Good Will and Good Logging" was Truman Collins, Collins Pine Co., Portland, pointing out that timber is growing almost as fast as it is being cut in the state, except for saw logs. However, the population of the state is also increasing, and although the per capita consumption of lumber may go down, timber will be a valuable commodity from now on in.

Collins predicted that logging in the future will concern itself greatly with forestry, insect damage, fire control, and salvage logging. He pointed out how foresters are working more and more closely with loggers in private operations. The logging superintendent in the future will have to have a long range viewpoint on his job.

The speaker said that probably 10% of loggers were not doing a good job, but the spotlight should be thrown on the 90% who were doing a good job.

Federal Judge Oliver Carter, San Francisco, formerly a state senator from California's logging regions spoke for the public on the conference theme. He said that loggers should see that their interests are represented before their legislative bodies, and also loggers must agree on a policy and adjust it to the policies of that other interested party—the public.

What's New and Different

The afternoon session was devoted to "What's New and Different", and

Left to right: Grant Thompson, Sierra Tractor & Equipment Co., equipment committee, Clare Hendee, U. S. Forest Service, W. Wickstrom, Byles-Jamison Lumber Co., L. D. Wambold, Lakeview Logging Co., Fred Pleuss, J. C. Rowold, E. D. Bransome, Jack Donovan, G. F. Jones, L. B. Stewart, all of Mack Motor & Truck Corp., Bert Gerlinger, Gerlinger Foundry & Machine Works, equipment committee, H. P. Strother and William C. Hagens, White Motor Co.

Left to right: Adolph Johnson and Edward Wachter, Hammond Lumber Co., V. E. Gabbert, Caspar Lumber Co., L. D. Scholl, Peterbilt Motors Co., Bud Wood and C. L. Morey, Fibreboard Products, Inc., E. P. Ivory, Ivory Pine Co., R. G. Huntress, M. S. Miller and L. A. DeMers, all of Wickwire Rope Division, Colorado Fuel & Iron Co., Truman Collins, Collins Pine Co., Harold Crane, Crane Mills.

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Low-Cost Plywood Bins Give Long Service

Plywood Builds Homes of Enduring Beauty

Plywood Built-Ins Add Convenience, Livability

Plywood Fixtures Are Attractive, Easy-to-Build

Re-Usable Plywood Forms Speed Work, Lower Costs

Over 100,000 Plywood Cars Now Ride the Rails

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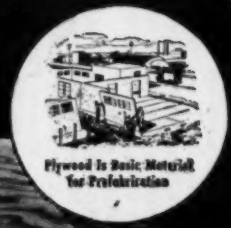
Durable Exterior Plywood Builds Attractive Signs


Plywood Is Basic Material for Prefabrication

Plywood Speeds, Simplifies Pattern Making

*W*HEREVER things are built, you'll find plywood hard at work. The built-in stamina and versatility of these real wood panels are every day setting new standards of value and performance. Plywood buildings grow by *square yards* instead of mere inches. Plywood boats, boxcars and truck trailers are built faster, last longer. And a host of other jobs and products are better-built with plywood.

More and more uses and users for plywood are being developed through continuing industry research and promotion—insurance that it will continue to be "America's Busiest Building Material."

Douglas Fir Plywood

Left to right: Jeff L. Dennis, Oak Street Tank & Steel Co., Dewey Phillips and Dudley Wiard, Skagit Steel & Iron Works, A. B. Hood, Ralph L. Smith Lbr. Co., Simon Alasker, panel leader, mills and ponds, W. H. Warner, Dawson & Warner Logging Co., Perry Hetrick, Moore Equipment Co., Doc Linebaugh, S. C. Linebaugh Logging Co., L. W. Ribal, David Craft, equipment committee, and Charlie Scaich, all of Moore Equipment Co., Sig Skinner, Allis-Chalmers Mfg. Co., W. Williams, Goff Machinery Co.

Left to right: Harry Rix, Valley Tractor & Equip. Co., C. R. Pierce, Proco, Inc., R. M. Ronald, The Hyster Co., Waldron Hyatt, Hammond Lbr. Co., Kenyon Young, The McCloud River Lumber Co., George Bowers, Lakeview, Lewis Winfield and Sam Lyon, Doris, and Todd Scroggins, Lakeview, all with American Forest Products Co., Pat Sanford, Sanford Tractor Co., Dick Kemp, Paul Bunyon Lumber Co.

Left to right: William Sullivan, Sullivan & Crowe, Reading, Henry S. Pimentel, Henry & Pimentel Logging Co., C. J. Ruplay, Ruplay Bros. Logging Co., Bill Schofield, "bull whacker" California Forest Protective The sign reads: "Subscribe to The LUMBERMAN—Keep up to date." P. G. Tyrrell, Twin Disc, H. L. Lane, West Coast Engine & Equip. Co., Mr. & Mrs. J. J. Bartle, logging contractors, Ed Pipkin and R. D. Morrison, Mall Tool Co.

in his introduction A. B. Hood, general manager, Ralph L. Smith Lumber Co., pointed out how we have come into a new era, with new types of equipment, and he said that through adherence to the California Forest Practices Act most loggers are doing selective logging and not just high grading.

Kenyon Young, The McCloud River Lumber Co., chairman of this part of the meeting introduced Ralph Hodges, Western Pine Association, who told of the competition lumbermen must face from substitutes for wood.

W. Williams, Goff Machinery Co., told of a weighing device now manufactured by his company for weighing logs and lumber. The device which operates hydraulically was exhibited at the conference.

E. P. Ivory, Ivory Pine Co., Dinuba, Calif., gave an interesting and detailed account of the system used by that firm of pre-loading logs on trailers. This system was subject of an illustrated feature article in THE LUMBERMAN in 1949. Page & Page had an outside exhibit showing how the system works, with hydraulic jacks on the trucks, and the stanchions on which the loaded and empty trailers are hung while waiting for a truck.

Waldron Hyatt, Hammond Lumber Co., told of the use of a Twin Disc Torque Converter in one of their logging trucks. He said that it is used on an adverse haul, and that going down a steep favorable grade

Some of the machinery exhibits at the Sierra Cascade Logging Conference at Anderson, Calif.

In addition to

HANSEL hydraulic slab, pulpwood and whole log barkers, we can now supply, with good deliveries,

DUNBAR CHIPPERS

in a wide range of sizes, for whole logs, cants, slabs, edgings and planer trimmings.

These chippers—horizontal shaft, direct drive—incorporate the patented DUNBAR knife setting, and have a slicing motion with a cleaner cut and substantial increase in acceptable chips, accompanied by considerable reduction in shock and vibration.

The feed to the chipper may be horizontal and no heavy foundations are required.

Your inquiries are invited.

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it can be used as a brake. He thinks there is a decided savings to be made in the use of a torque converter in this manner and they are buying three more like it. He said that the Twin Disc Torque Converter had been in for a year and that it had required no repairs. No strain has been reported on the rear end of the truck due to the torque converter, according to the speaker.

Light weight truck design was discussed by J. R. Scholl, Peterbilt Motors, and Fred Pleuss, Mack Motor Truck Corp.

Scholl told of manufacturing a truck made from lightweight materials but he pointed out there are certain limits to which a manufacturer can go. He pointed out that most footage comes from a truck that will stay on the job day in and day out. He said that it is hard to get a truck below 14,000-lbs. weight that will haul a big load.

Pleuss pointed out that higher hauling costs mean the necessity of higher pay loads. He said that there are definite limits however, in reduction of weight in logging trucks. There is always some weak link on a light weight truck that has been built up to carry heavy loads.

He told of how some time ago the Mack engineering staff was asked to design a truck with a maximum weight of 15,000-lbs., which would be a saving of 3,000-lbs. over units of a comparable model in use at that time. The truck has been produced, and the weight saving has been accomplished by the use of 1,240 aluminum parts and by changes in the engine design.

This chassis has not yet been released as a logging unit, but there are over 100 of these lightweight trucks being used in California—some for hauling lumber. Pleuss said that the Mack factory was also making progress in the production of a lightweight all steel logging truck.

Chairman and speaker on the next subject—"Safety in Logging" was Byron Oyster, safety engineer, Weyerhaeuser Timber Co., Longview, Wash.

Oyster pointed out that there was plenty of room for improvement in safety in California's woods since figures showed that accidents increased in forest industries 24% from 1949 to 1950.

He said that there are plenty of incentives for an active safety program—first of all humanitarian, secondly it will improve employee and public relations, thirdly, will increase production; and fourth, will cut insurance costs."

Panel Sessions

Something new for the Sierra-Cascade Logging Conference was introduced on the session of Feb. 1—these were "Side Rod" sessions, devoted to fall, buck and limb; yarding; loading; hauling and roads; ponds and sawmills; and applied forestry, and these sessions were held in separate rooms. Conference members went directly to the special group session rooms of their choice.

"Side Rod" of Fall, Buck, and Limb was W. J. Thomas, Medford Corp.

Ponds and Sawmills—"Mill Boss" and Chairman Simon Alsaker, Woodleaf, Calif.

Loading—"Side Rod" and chairman, W. Wickstrom, Byles-Jamison Lumber Co., Fresno.

Hauling and Roads—"Side Rod" and Chairman Henry Ghiglieri, J. T. McDonald Logging Co., Anderson, Calif.

Applied Forestry—"Head Cruiser" and Chairman L. D. Wambold, Lakeview Logging Co., Lakeview, Oregon.

On the afternoon of Feb. 1, came the "Riggers' Round Table" a unique feature of the Sierra-Cascade Logging Conference. This is a giant bull session of all loggers, equipment men, and associates, and this time it was sparked by the Friday morning panel groups and all other program participants.

"Bull Cook" was Bill Berry, California Foresteering, as usual and "Bull Whacker" was Bill Schofield, California Forest Protective Association, who appeared in his Paul Bunyan garb, complete with "bull hook", and mustache.

Theme of this session was: "The Pond Is Full—What's in the Next Forty?".

Top, left: DeWitt "Swede" Nelson, California state forester; right: Byron Oyster, Weyerhaeuser Timber Co.; lower, left to right: Fred Deetken, General Electric Radio Communications, and Lew Baysinger, American Forest Products Corp.

"Head Cruiser" Wambold reported for the Applied Forestry panel. He pointed out that the California timber supply was not unlimited and that we must make the best use of what we have. We must provide a continuous crop of timber.

John Callahan, State Division of Forestry, pointed out that slash disposal was one of the most pressing problems. He said that there was a division of opinion about lopping tops—some were for it and some against.

Bud Hodges, J. T. McDonald Logging Co., said that they use a rake for accumulating slash. He said that brush rakes have a tendency to detroy young growth. They also have a snag pusher, mounted on a "Cat" which was shown at the equipment show, with which they push over snags at a cost of about 28¢ each.

George Soares, Crane Mills, said that they have two brush rakes, and they have two swampers with axes working with the machines when they are accumulating slash. These swampers throw out the large limbs.

DeWitt Nelson, California State Forester, remarked that cut-over lands, and slash areas are getting closer and closer together. He thinks that loggers should devote more attention to slash disposal.

Jim McMillan, Ivory Pine Co., said that they were planning on making sawdust out of the snags that they brought to the mill, and would sell the sawdust to grape growers in the neighborhood for packing grapes.

It was mentioned that there were other uses for snags, cull logs, etc., rather than lumber—for example for pulping purposes. Many snags will make good chips for pulp. An operator in Oregon is putting snags in a veneer lathe and getting a low grade, but merchantable veneer.

Henry Ghiglieri, J. T. McDonald Logging Co., reported on the work of the hauling panel. He said that there was much discussion on lightweight vs. heavyweight trucks and the concensus of opinion had been that it was much better to stay with heavy equipment and cut the loads down, if public roads were to be used.

Joe Rossi, Joe Rossi & Co., Fort Bragg log hauler, told how he saved weight and got bigger pay loads by using regular pull lumber trailers for hauling logs. He said that this type of trailer was easier on tires, trailed easier, and were just as easy to load or unload as a regular logging dolly.

The discussion of the loading panel was mainly concerned with getting

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enough footage on the truck to make it pay under the new weight laws in California and Oregon. The haulers figured that it was better to go along with the exact weight of the logs, rather than estimate the weight by volume.

Orme Felmley, Wetsel-Oviatt Lumber Co., told how they had put a pneumatic scale on their shovel loader and had had no fines all summer.

The method of Crown-Zellerbach Corp. in keeping track of log loads was mentioned. Here a chain is fastened to the log bunk—when the chain drops down to a certain point the truck is loaded to capacity.

W. J. Thomas, The Medford Corp., reported on the work of the falling, bucking and limbing panel. The big problem is educating these gypos in safety, he said.

It was mentioned that logs are costing 50% less for falling and bucking now than in 1940, on account of the recovery of scale by use of power saws.

Rubber Tired Equipment

Rubber tired logging equipment was the main topic of discussion in the yarding panel, headed by W. H. Warner, Dawson & Warner Logging Co. They talked about the LeTourneau Turnadozer and rubber tired logging arches. Some thought that rubber tired arches would outroll and out wear crawler wheels. The rubber tired arch was reported to be more economical, but it was pointed out that the tire tread should be smooth or with ribs, but not with lugs.

Paul Westfall, Westfall Mfg. Co., Portland, described the Westfall Performer a rubber tired skidding machine, especially adapted for a swing machine—that it would take logs from the tractors and arches in the woods at a high rate of speed down skid roads to the landing.

The final day's session was devoted to "Forest Practices and Land Management". Chairman was Harold Crane, Crane Mills.

Clare Hendee, regional forester, USFS., said there were 101 working circles in all of the national forests in California. Said Hendee: "Light cutting over larger areas keeps the land more productive. Recutting can take place in fewer years."

R. A. Colgan, general manager, Shasta Forests Co., Redding, said that pine timber is growing back and lots of it.

Colgan advised foresters to first find out what can be sold out of the woods and then keep up on the prices of forest products.

He said that with two or three more pulp plants in California we could do a better job in managing our forests.

The third speaker on this program was DeWitt "Swede" Nelson State Forester, who pointed out that about three quarters of California timberlands and timber production were represented at the meeting.

He said that the lumber industry doesn't have the good will of the public because the public doesn't understand the problems of loggers. "Therefore", said Nelson, "we have a job to do in educating the public what a good logging job consists of." The speaker pointed to four fundamentals on good forest practices: 1. Do not cut below minimum diameter. 2. Log with care so that reproduction is protected. 3. Prevent fires and reduce fire hazard. 4. Organize, train, and equip men to fight fire.

Waller Reed, Collins Pine Co., suggested there should be a joint industry and government board to close certain forest regions and roads to the public when the fire hazard is too great.

The use of helicopters in fire fighting was discussed and it was stated that fog spread from a helicopter could be of great value in fighting fire. They are good for reconnaisance, and for picking men up at one spot and dropping them at another. They are also useful in delivering food and water to fire fighters.

Resolutions were passed by the conference uring management to carry the message of safety to the man on the job; urging public agencies to fit their road laws to the roads; urging all operators to strive to improve forest practices; urging industry to study methods of salvaging bug losses; paid tribute to the equipment people for the equipment show and their aid in staging the conference; thanked the people of Redding and Anderson area for help and hospitality, particularly the Redding Chamber of Commerce.

New Board of Directors

The board of directors of the Sierra-Cascade Logging Conference for 1952 will be Herbert McMahan, Ralph L. Smith Lumber Co., Jack S. Berry; H. R. Crane; James Wells, Trinity County Timber Co.; Harry Oatman, Trinity Alps Lumber Co.; A. A. Lausmann, Lausmann Lumber Co.; George Flanagan, Elk Lumber Co..; Henry Ghiglieri, E. B. Mason, Diamond Match Co.; Robert Grimmett, Pine Logging Co.; William B. Berry, W. Wickstrom; James Coonan, Stockton Box Co.; James Garrett, Dave H. Rogers, High Sierra Pine Mills, Inc.; Carl Walker, Feather River Pine Mills, Inc.; L. D. Stephens, Weyerhaeuser Timber Co.; Robert Adams, Adams Lumber Co.; Elmer Hall, McCloud River Lumber Co., and A. N. Herring, Castle Creek Lumber Co.

The equipment committee was headed by N. E. Gurney, chairman, Sierra Tractor & Equipment Co. Other members were William Sullivan, Sullivan-Crowe Equipment Co.; Dave Craft, Moore Equipment Co.; Grant Thompson, Sierra Tractor & Equipment Co., and Bert Gerlinger, Gerlinger Foundry & Machine Works.

This able and efficient committee along with a 25 man advisory committee arranged for an indoor and outdoor machinery and supply exhibit that was estimated to be worth more than a million dollars.

The Machinery Show

Inside were housed the exhibits of the General Electric Radio Communications; Watson & Meehan, Cummins 300 hp diesel engine with Twin Disc Torque converter; Dominion Bridge Co., Dominion 25 Premier Gangsaw; Valley Supply Co., McCulloch chain saws; Valley Tire Service—Kelly tires; Bystle Garage—Bendix Westinghouse air brakes and Greyrock brake blocks and lining; "Caterpillar" distributors had an exhibit stressing repairs to "Cats"; Watkins & McWhorter—tire recapping; State Division of Forestry—Keep California Green—photos; Precision Engineering Co., Magnaflux demonstration—tractor shaft built back to standard with hard chrome plate.

Nielsen Motor Co.—U. S. Royal and Armstrong tires; Kyle & Co.—Disston power saws; Mack Trucks; Redding Tractor Co.—Titan power saws; Hetzel Bros.—Hydrotarders; Cascade Industrial Supply Co.—Skagit loader, Larson Logging tools, Wickwire wire rope; Western Fire Equipment Co.—Pacific Marine pumpers, fire fighting tools, Homelite power saws, a slip-on fire pumper unit; Disston Chain Saws; Gerlinger Steel & Supply Co.—Simonds saws, Chain Belt chain, Bethlehem Pacific Wire rope in conjunction with which there was a "Know Your Rope" guessing contest with prizes, Skookum blocks, Hercules powder, General Electric motors and drives; Southern Oregon Equipment Co.—McCulloch chain saws; Alemite lubricating systems; Moty & Van Dyke, Inc.—Timken truck parts, Yellow Strand wire rope, Skookum and Esco blocks, Disston chain saws, Dodge and Timken bearings; Fred E. Barnett Co.— Carco winch, Disston chain saws, D. B. Smith Indian fire pumps, logging tools, Tiger brand wire rope; J. R. McGee, portable drills and vices; Colby G. Smith—Fisk tires; Standard Oil Co. of Calif.—exhibits of oils and greases; Cook & Lebell—patent adjustable logging trailer bunk, with telescoping cheese blocks; Metal Processing Co., Metco chipper and hog knives; King-Knight Co.—cut-away Buda diesel truck engine.

Oak Street Tank & Steel Co.—Rogue steam cleaner; Mall Tool Co.—various

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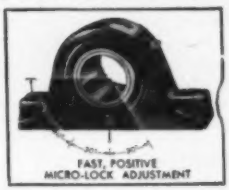

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THE HUSS CHRONICLE

From the Files of

THE LUMBERMAN, MARCH, 1922

The Inman Poulsen Lumber Co., Portland, Ore., cut 506 logs on one headrig in an eight hour day producing a total of 314,000 feet of lumber which is an all time one shift record for this mill.

C. A. Goodyear well known southern and western lumberman, died at Pasadena, Calif. He was born in Brooklyn, N. Y.

E. A. Foster and Max Wyman opened the Foster-Wyman Lumber Co. in the White Building, Seattle. Foster has been with the McCormick Lumber Co., McCormick, Wash. and Wyman was with the Dwight Davis Lumber Co. They plan to do a general wholesale lumber business.

Harry E. Morgan, formerly with the Mill City, Ore., sawmill of the Hammond Lumber Co., has been made superintendent of the Whitney Co. mill at Garibaldi, Ore., of which Henry Kirk is manager.

A. C. Dixon, manager Booth-Kelly Lumber Co., Eugene, Oregon, has been elected president of the West Coast Lumbermen's Association.

The California White & Sugar Pine Manufacturers Association at a meeting decided to ask the railroads to reduce the interstate freight rates on forest products.

Many western lumbermen are planning to attend the American Lumber Congress at Chicago on April 4-7.

W. C. Lawton, formerly with the Nettleton Lumber Co., Seattle, and Fred H. Parks have started the Parks & Lawton Lumber Co., with offices in the Stuart Bldg., Seattle.

J. G. Robson, manager Timberland Lumber Co., Ltd., New Westminster, B. C., speaking before the Kiwanis Club predicted a bright future for the lumber industry.

F. G. Donaldson, formerly secretary of the Willamette Valley Lumbermen's Association, has gone into business for himself as a traffic expert.

J. P. VanOrsdel, well known logging engineer, joined the staff of James D. Lacey & Co. with offices in Seattle.

So much for the past . . . In the Future, Try

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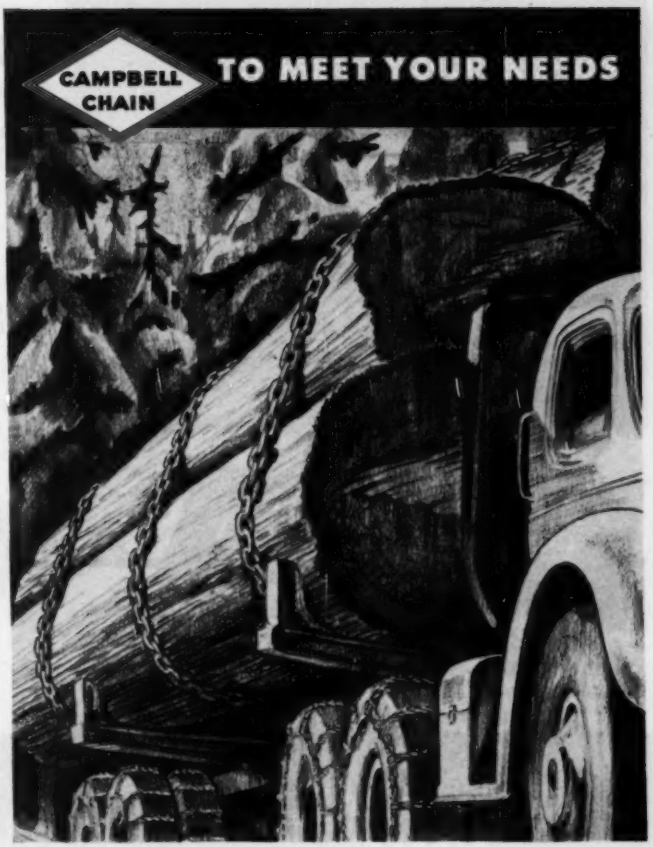
models of their power saws; Stetson-Ross Machine Co.—pictures of various models of their woodworking machines; Goodyear Tire & Battery Service—Goodyear tires and tubes; Paul Droscher Sales—Bullard hard hats, Laher springs and brake linings, Pacific wire rope, Skookum blocks; Goff Machinery Corp.—Edwards wire rope, Hoe saws, Armstrong saw sharpener, California Engineering & Machine Works poney planer and combination cleat machine, Goff corner post machine, Ropemaster blocks; Cedar Rapids Engineering Co.—Kwik-Way engine repair tools.

Out of doors were shown an International L-190 truck with Fruehauf trailer; a Sterling-White truck with Page & Page trailer; Rochlitz Bros. showed Timken and Mack rear ends, axles, dual drives, etc.; E. R. Bacon Co. showed Whitney and Jeffrey chain, Reese C100 loader, Jaeger air compressor, Austin-Western grader; there was a Peterbilt logging truck; a Diamond T logging truck with Fruehauf trailer; five models of Mack trucks; four models of White and White-Sterling trucks, one with Reliance logging trailer; a White Freightliner with Buda diesel engine; five models of GMC trucks from F. B. Hart Co.; two Kenworth trucks.

Moore Equipment Co. showed three models of GMC trucks, an Allis-Chalmers grader, A-C tractor with Garwood 'dozer and Carco winch, A-C HD9 with Carco winch and Garwood 'dozer, A-C HD15 and HD20 with Carco winches and Carco 'dozers, and a Westcoaster fork lift truck; Autocar had two logging trucks; several Utility logging and lumber trailers; Fruehauf lumber, logging and low bed trailer and van; Sullivan & Crowe Equipment Co. showed an International TD24 tractor with Bucyrus-Erie 'dozer and Carco winch, TD18A with Isaacson 'dozer and Carco winch, Adams motor grader with Goodyear tires, International L-190 truck with Page & Page trailer and Firestone tires, and an international truck with Goodyear tires; Sierra Tractor & Equipment showed a "Cat" No. 12 motor grader, Traxson Traxcavator, "Cat" DW20, with Goodyear tires, 275 hp diesel engine, and No. 20 scraper—23 yds. capacity, "Cat" D7 with Cat 'dozer and Hyster winch, "Cat" D8 with snag pusher developed by Bud Hodges, Bill Peters, and Ray Davis, J. T. McDonald Logging Co., which pushed 9636 snags in Sept., Oct., and Nov., roll out hook developed by Bill Warner, Dawson & Warner Logging Co., Fleco rock rake, "Cat" D8 with Preco back ripper, "Cat" 'dozer and Hyster winch, "Cat" D8 with Hyster winch and Hyster arch with Athey wheels; Buran Equipment Co. Hough Payloaders, Reliance Dual Purpose trailer; Skagit B30 and B20 loaders, powered with Ford industrial engines; LeTourneau Turnadozer with Carco arch on Firestone tires; "Cat" D7 with Hyster dragline; Hyster fork lift truck, demonstrating the Goff Wafast weight indicator; Coast Equipment Co., Lorain Model 504W 1 yd., shovel, 43' boom, powered with "Cat" D318 diesel engine, mounted on Goodyear tires, owned by J. W. Taylor Logging Co., and demonstrating the Goff weight indicator for logs; Page & Page gave a demonstration of load relay unit—two stanchions—one with load of logs and trailer, one with empty trailer, and White truck with hydraulic jack equipment was owned by the Roseburg Lumber Co.



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H. J. Mackin (left) newly elected president of Seaboard Lumber Sales, Vancouver, with John R. Humbird, a former president of Seaboard and honorary director.

H. J. Mackin Seaboard's New President

British Columbia's big lumber export organization, Seaboard Lumber Sales, Ltd., chose a new president recently at its annual meeting in Vancouver—Henry J. Mackin, president of Canadian Western Lumber Co. and of Elk Falls Co., for many years a leading figure in the lumber industry of the west coast.

Mr. Mackin was chosen to succeed Bruce M. Farris, who recently retired as a vice-president of MacMillan & Bloedel, and who had headed Seaboard since the retirement of John R. Humbird, now a director of the company for life.

Not only does Mr. Mackin, in addition to his affiliation with Seaboard, head the company that operates at Fraser Mills, B. C., one of the largest sawmills in the British Commonwealth; he is also president of the company that is building the only completely new newsprint mill in the world—that of Elk Falls Co. at Duncan Bay, Vancouver Island, which is expected to be in production during the coming summer.

First vice-president of Seaboard is J. G. Robson, head of Timberland Lumber Co. and another veteran of the industry. Other vice-presidents are: L. L. G. Bentley, Canadian Forest Products; J. A. C. Drew, Hillcrest Lumber Co.; M. D. B. King, M. B. King Lumber Co.; S. Heller, Pacific Pine Co.; R. S. McDonald, B. C. Manufacturing Co. and Westminster Shook Mills; J. O. O'Hagan, Glaspie Lumber Co.

C. H. Grinnell is chief executive of the company as vice-president and managing director, with C. N. Effinger as assistant manager and secretary.

S. A. Konz, active for many years in the Wisconsin forest industries, died recently at his home in Appleton, Wis. He established a sawmill and box factory at Rib Lake, Wis. in 1905 moving to Appleton in 1917. He retired five years ago.

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Illustrated is L-M Deck Saw with 88-inch bar and hydraulically-controlled lift, mounted on movable carriage . . . at the C. D. Johnson Lumber Corp., Toledo, Oregon

Photo courtesy The Timberman

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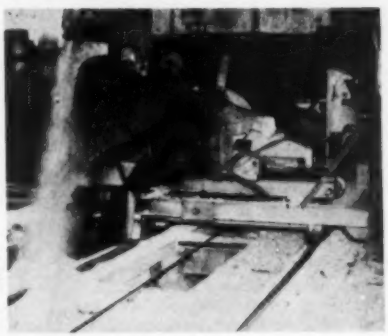

Mater Air Dog Carriage at Guy Roberts Lumber Company of Toledo, Oregon. Safe, dependable air operation. Tapers and flippers are efficient extras added to carriage to increase production.

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Careful study of both raw material resources as well as market potentialities, with an equal attention to physical planning, has brought to Southern Pine Lumber Co., Diboll, Texas, a treating plant tailored to fit its economic picture. The plant started in April, 1951, achieving full, profitable production from the beginning.

The treating plant stems from the general program laid down in 1947 which had as its objective the conversion of the 1892 sawmilling operation into a modern integrated forest products industry. Its designing was preceded by analysis by the woodlands department of the probable anticipated yield of materials to be treated from the forest management operations. Coincidently, the markets to be served were studied.

Then H. E. Bovay, Jr., Houston (Texas) consulting engineer, submitted to Arthur Temple, Jr., vice-president and general manager, plans for the two cylinder treating plant project. The designed capacity fits the 75,000 poles and other materials provided each year by 400,000 acres of forest land.

Johnnye U. Foster, (left) manager of Southern Pine Lbr. Co.'s treating division and Claude F. Lord, (right) superintendent of the treating plant.

The 25 acre well drained site faces on a paved highway, with railroad spur entrance from the rear. The 2½ miles of 75# rail standard railroad tracks extend in parallel rows from back to front, providing through 21 switches a minimum of car movement as material progress through production stages.

Handling and switching is performed by three American Hoist & Derrick locomotive cranes equipped in rebuilding with Cummins Engine Co. HRIP-400 Series diesel engine with Twin Disc CF-100-19-TC torque converter.

These cranes unload deliveries from the woods, placing the unbarked poles on either of two slightly inclined iron rail ramps elevated above ground by concrete posts, and constituting the two-sided infeeder. Logs are rolled to the infeed buggy running to the short narrow gauge track, thence go into the peeling machine furnished by Efurd Machine & Welding Co., Bossier City, La., which removes the inner bark and irregularities at the rate of 1100 to 1200 linear feet per hour.

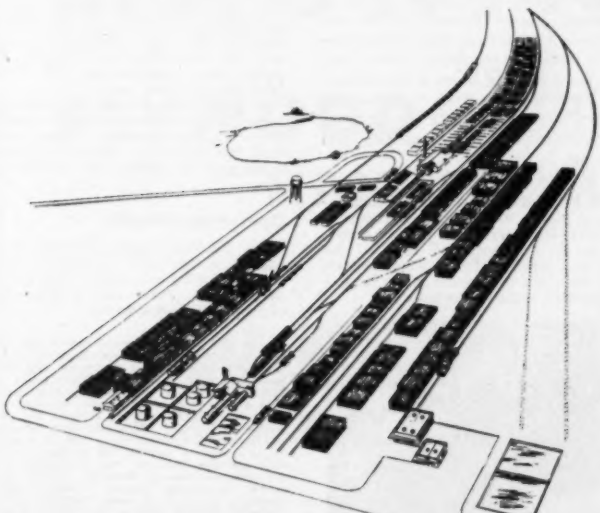
At no time from receipt to final shipment are poles permitted to rest on the ground.

Timbers or lumber to be treated are either air-dried or steam dried over-night in the preserving chambers. Material treated is backed into or drawn out of the cylinders by a 25-ton locomotive engine equipped with a Ford motor.

There are two 8-foot inside diameter cylinders, one 50-foot unit (42-foot inside) and one 87-foot (82-foot inside). The short length is used for treating with a petroleum solution of pentachlorophenol supplied by Chapman Chemical Co., Memphis, Tenn.; the larger, for a standard AWPA Grade 1 creosote treatment. The floor drains from the treating chamber areas are led to separate settling ponds to facilitate recovery of any chemical that may escape.

The treating cylinders are designed for a pressure of 225 psig and for 28-inch vacuum. Their length was designed to fit materials supplied from company forest and other contractural suppliers. There are two working tanks for the creosote and one for pentachlorophenol, with one supply tank for each. The cylinders have special designed hinges permitting opening and closing of doors by one man. An air wrench is used to work the cylinder door nuts.

The building housing the facilities for handling the treating chemicals is immediately adjoining the cylinders. It houses an Ingersoll-Rand pump driven by a 75-HP Westinghouse induction motor for fill and transfer of pentachlorophenol; and



Sketch of Southern Lumber Company's new pole and lumber treating plant at Diboll, Texas. Sketch by H. E. Bovay, Jr., consulting engineer, Houston, Texas

a similar but 100 HP unit for creosote. Other equipment includes an 100 HP motor equipped air compressor, a 2-stage vacuum system, steam pressure pumps. The instrument panel has a complete set of recording instruments showing temperature, pressure, flow, etc. Also housed is an excellent laboratory with equipment and reagents for complete analysis of both creosote and pentachlorophenol.

Steam for the plant comes from the lumber mill's boiler house through an elevated 6-inch 3600-foot line. It leaves the boiler house at 145# pressure; is received at 140#. The steam line is protected by 2-inches of Fibreglas insulation covered with aluminum jacketing.

Consideration for the 40 employes who operate the plant 24-hours daily on a six day week has been expressed in a modern change house and locker room comparable to the best anywhere. Lockers are of the forced ventilation type and fixtures wall-hung.

J. U. Foster, a Louisiana State University graduate forester formerly associated with Koppers Co., Wood Preserving Div., is manager of the Southern Pine Lumber Co.'s treating division. Claude F. Lord, a veteran of 30 years' experience, including with Koppers, is superintendent of the treating plant.

Kosmos to Log With Two Philstrams

Kosmos Timber Co., Kosmos, Wash., will shortly put into operation two Philstram high line logging units. This is a machine developed by Phil Grabinski who invented the Skyhook.

The machines will be used to log a large area of privately owned timber on Huffaker Mountain which was swept last summer by one of the worst forest fires in a number of years. The company decided to get into the area quickly so as to salvage as much as possible of the burned timber. The area is very steep and rough. It appeared to Kosmos that the quickest means of getting out the logs would be by means of the Philstrams. They expect to reach out or up 2000 feet more with this machine. Two machines will be used. While one is logging, the second unit will be rigged ahead. In this manner there will be no interruption in the flow of logs. The machine will bring the logs to a truck road where they will be loaded on trucks. One Philstram with an 1800 foot skyline is being used in building a bridge across the Cowlitz.

The two machines were built by Bernth & Co., Seattle. They are powered with IND 8 Chrysler 110 HP Industrial engines and have Chrysler transmissions built by a new process. The power units were supplied by the Evans Engine & Equipment Co., Seattle, Wash.

To operate the two machines the following wire rope, all Broderick & Bascom, Yellow Strand will be required; 4-3600-foot, 1¼" 6x25 skylines with wire centers; 4-3600-foot, ⅝" 6x19 driving lines wire centers; 2-3750-foot, ⅞" 6x19 tightening lines; 1-7350-foot, 7/16" 6x19, wire center, strawlines for installing and rigging.

Fir Products, Inc., a new remanufacturing plant, went into production at Norway, Ore., early this year. According to **A. F. Moorehead**, head of the firm and former Coos County forester, says the plant will handle rough lumber from small mills in the area.

Main entrance of new office building of Tyee Lumber and Manufacturing Co., Seattle, showing exterior use of Welchboard (plastic-faced plywood), manufactured by West Coast Plywood Co., Aberdeen. 4' x 8' panels were used — fastened down by galvanized nails. Oil base paint was applied to surface.

Welchboard Uses Increasing

The number of uses for Welchboard—the new plastic faced plywood manufactured by the West Coast Plywood Company, Aberdeen, Washington—is rapidly multiplying according to officials of the firm.

New uses are being found not only in the home construction field, but in schools, industrial applications and in the marine field. These new applications apply both to interior and exterior uses.

One of the more recent uses of Welchboard was inside and outside the new office building constructed by Tyee Lumber and Manufacturing Company, Seattle. On the exterior of the building 4' x 8' Welchboard panels were butted and fastened to the frame of the building with galvanized nails. A standard finishing technique was followed—the Welchboard surface accepts an oil base paint very well.

On the interior of the Tyee office building butted 4' x 8' panels were also used. The Welchboard panels were fastened direct to the studs by means of finishing nails, which were countersunk and the holes filled with putty. The surface was then painted with a mild textured, oil base paint.

In public school construction there is a growing use of Welchboard for interior walls and wainscoating. In the marine field Welchboard is finding a growing acceptance for decking, house sides and tops.

Operating Steadily

The Central Oregon Plywood Co. at Elkton is operating the green plant regularly with one shift. They have a Jackson 8 ft. veneer lathe, a Victor clipper and a Prentice barker.

One of the leading plywood distributing firms on the Pacific Coast is North-Robbins Plywood, Inc., with headquarters in Seattle and warehouse branches in Spokane, Washington and Salinas, California. The organization recently held a sales meeting in Seattle and went over plans for 1952 for jobbing plywood and other building materials. Those attending the meeting included: (seated, from left to right)—Lewis J. Mosier, Seattle; Bill McElroy, Seattle; Carl Hatcher, Spokane; Ray B. Robbins, Vice President and General Manager, Seattle; V. W. North, President, Seattle; William Holzer, Spokane; Dennis D. Reardon, Seattle; Vern D. Thomas, Seattle; Clinton R. Larson, Seattle. Standing, left to right—Alfred M. Wright, Manager, Spokane; R. L. Brazelton, Manager, Salinas; K. L. Dolley, manager, Seattle; Les Peek, Seattle; and John Anderson, Seattle.

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SAP STAIN CONTROL

by
GUY R. RAMSEY
Wood-Treating Chemicals Co., Portland, Oregon

Green lumber that is being air seasoned on the yard by the sawmill is quite vulnerable to discoloration by sap staining fungi that send their colored mycelia through the sapwood and by molds which grow on the surface of the wood. The surface molds grow on the surface of the lumber of both heartwood and sapwood, while the sap staining fungi grow in the sapwood of the lumber. These organisms send their colored roots or mycelia deep into the pores of the wood giving the wood a bluish tinge although some sap stains take on other colors. Therefore, many lumbermen refer to it as "blue stain" or "bluing."

Since sap stain is the result of fungus action, and since fungi are low forms of plant life, the sap stain fungi require certain conditions for growth common to other plant life. In general these conditions are food, moisture, air and favorable temperatures. Naturally the food is found in the cells of the wood. The wood must be moist, and these particular fungi require considerable moisture, so they are prevalent only in sapwood and grow only while the sapwood is moist. Once the wood is dry, growth of sap stain ceases, but the fungi will start to grow again if the wood should take on sufficient moisture to favor growth of the fungi.

Sap stain is not common to one type of wood, but occurs on all woods and only in the sapwood and under favorable conditions for growth. Many people in the Pacific Northwest have the impression that sap stain does not occur with Douglas Fir. This impression grew, no doubt, during the decades when practically all Douglas Fir lumber was cut from old growth trees on which the sap made up but a very small per cent of the logs. However, as cuttings from second growth and therefore younger Douglas Fir stands become common, the problem of control of sap stain with Douglas Fir must be met.

In planning control of sap stains one must keep in mind these simple facts about the growth of fungi. The very process of seasoning of wood is one act of control since it is the removal of moisture. Kiln drying of lumber not only effects the quick removal of moisture needed by the stain organisms but it also subjects the stains to temperatures too high for their growth. However, all lumber cannot be kiln dried as soon as it is cut, and air seasoning is still an important method of lumber drying. Furthermore, green lumber held several days before kiln drying, or in shipment from a few days to several weeks, is subject to sap stain infections. Even logs held in the woods, en route to the mill, or held in decks will stain.

The principal method of combatting sap stain in lumber is with water soluble chemicals. The chemicals are applied by either dipping, spraying, or brushing; but the first method, dipping, is the best. Dipping consists of immersing the lumber in a suitable chemical solution for a period of time sufficient to get all surface of the wood thoroughly saturated with the solution. Dipping vats are commonly installed at the head of the green chain platform directly behind the saw where the lumber is permitted to travel down, through, and out of the chemical solution on chains. The advantage of this method is that the lumber is dipped immediately after sawing, proper immersion is assured, and complete wetting of the surface of the wood with the treating solution. A dipping vat should be deep enough and the level of the solution should be kept high enough to allow the surface of the lumber to become completely saturated. A good rule is to provide the complete immersion of each stick for at least five seconds. The lumber when entering the vat should be eased in and not allowed to drop with a splash which wastes solution. Also, while traveling through the vat, the lumber should be rolled under the solution by wheels hinged from above the vat. Most any kind of wheel can be used, even old auto wheels with inflated tires. A drainback slope should be provided as an economy measure and also in order that the lumber will not be excessively wet by the time it is handled by the graders. A gradual slope over a distance of 12 to 16 feet is about right.

Spraying devices of several kinds are in use, but in general only when lack of space prohibits installation of a dipping vat, or in planing mills where the lumber is sprayed as it leaves the planer. The weakness of the spray methods in use is that the spray is usually momentary and not applied for anywhere near the minimum of five seconds as recommended for immersion in the dip process which does a much more thorough job. To somewhat offset this, it is customary to increase the strength of the solution to 1½ to 2 times that recommended for dipping. In the construction of any spraying device provision should be made for jets of solution to strike all sides and the ends of the lumber. A box open at the ends where lumber leaves and enters, except for canvas flaps, and equipped with jets above and below usually is used. Jets should be slanted, some to direct the spray against the lumber as it enters the box and some to direct the spray on the lumber as it leaves. A catch basin should be provided to recover the solution after spraying. It should be equipped with sets of screens to remove all sawdust or other material which might clog the jets. Spray rigs are sometimes mounted on wheels in order to push it into a place in the chain system or behind the planer, so fashioned as to replace the spray with a section of chain, also mounted on wheels, when lumber not requiring treatment is being handled.

Whether dipping or spraying it is necessary to provide for solutions strong enough to meet prevailing conditions. Conditions favoring growth of sap stain organisms vary; some mills are located in areas where little stain is encountered at any season, others where staining conditions may be bad all the year around. Manufacturers of sap stain chemicals recommend strengths for average conditions, so it is up to each sawmill operator to evaluate staining conditions at his site and vary the strength of solutions accordingly. Chemical manufacturers provide simple equipment for testing the strength of treating solutions.

For both dip and spray equipment, it is advisable to provide a mixing tank marked in some manner to indicate the level of each 100 gallons. A spigot from the mix tank may be set to drip at a rate which will continually keep the level of the solution high enough in the dip-

ping vat to insure that each board is kept under long enough. In no case, should chemicals be mixed in the dipping vat because of the difficulty in maintaining proper strength of the solution. Furthermore, no direct water line should be permitted into the dipping vat in order to avoid dilution in case someone turns on the water and fails to shut it off, or in some other way unknown quantities of water are run into the solution.

The principal types of chemical solutions used over the past few years are those containing chlorinated phenols combined with other chemicals, and organic mercuries. One of the first chlorinated phenol combinations to prove highly effective was Noxtane. It contains Sodium Pentachlorophenate, Borax, and Soda Ash. This chemical is used by many sawmills in the South and West Coast because of its high effectiveness in controlling sap stain and surface molds. Also, Noxtane's low irritating and dusting properties make it especially popular with the workmen. Organic mercuries are somewhat effective against sap stain, but usually not against surface molds, which is important in many instances. It has been shown by recent tests that the mercury solutions lose strength by use to an extent that is commercially significant unless the solution is restrengthened. However, the loss of strength by use of solutions of Sodium Pentachlorophenate, Borax, and Soda Ash was found not significant.

There are other practices to follow in controlling sap stain on lumber in addition to applying chemicals. Briefly they are: avoidance of all delays in applying chemical treatment, use of clean stickers in lumber piles, and practice of all proper lumber stacking rules such as elevated foundations, roofed lumber piles, and ample width of alleys in the drying yard.

Another question or problem is wood borers. In the southern sections of the country logs are attacked by insects such as the ambrosia beetle, round head borer, flat head borer, bark beetle and similar insects. Freshly cut logs that are not cut into lumber within a week or so in warm weather are quite often attacked by these insects and they will either make the logs unfit to be made into lumber or the logs will make a very low grade of lumber. The ambrosia beetles bore through the bark of freshly cut logs and into

memo from PAUL E. KEENEY

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the sap wood making large tunnels in the wood. Some species of this insect also cut into the heartwood. The ambrosia beetles do not eat the wood but live on the ambrosia fungi that live in green logs or lumber where the moisture content is above the fibre saturation point; i.e., above 30-35 per cent moisture. In fact, these insects cut a tunnel in the wood and actually plant the spores of these fungi in the tunnels.

Certain of the ambrosia fungi have a black color and will discolor the logs in the vicinity of these tunnels. The ambrosia beetles then not only bore holes in the logs, but contribute to discoloring it due to sap stain organisms. The Forest Products Research Laboratory has found Benzene Hexa Chloride-Pentachlorophenol chemical solutions to be very effective for preventing attack by these beetles on the logs and inhibit the growth of the staining fungi. If logs are sprayed with an insecticide-fungicide of this kind, it would be necessary to thoroughly cover the logs to a point of "run off" both on the ends and bark. This type of treating solution is usually manufactured in oil concentrate form. One of the newest concentrates on the market today is Timbertreat 620 which dilutes at the ratio of 1 gallon of Concentrate to 20 gallons of No. 2 fuel oil or diesel oil.

Southern Meetings

Meetings of southern pine lumber manufacturers have been set for April 7-8-9, in New Orleans at the Hotel Roosevelt. Russ Eagle, Saner-Ragley Lbr. Co., Carmona, Texas, is chairman.

Southern Hardwood Producers will hold its annual meeting in New Orleans on March 20-21.

Forest Farmers Association will hold its annual conference in Chattanooga, Tenn., on March 27-28.

The American Pulpwood Association plans to hold technical meetings in the southeast on April 16-17 and September 17-18; and in the southwest on March 19-20 and October 29-30. Locations have not been announced.

The Tennessee Valley Authority, in cooperation with other cooperating agencies, has tentatively scheduled conferences for small sawmill operators as follows: at Dexter, Ky., on March 27; at Newport, Tenn., sometime between March 1st and 15th; at Jackson, Tenn., sometime between April 15th and 30th; and at a point not as yet designated in North Carolina at some time between May 1st and 15th.

Evans Products Company Has Three Plants

To maintain a well rounded, versatile and integrated production program, the Evans Products Co. operates three separate plants. Two of these are located in the States, one at Plymouth, Mich., and the other at Coos Bay, Ore., and a third in Canada at Vancouver, B. C.

The main plant and general offices are at Plymouth, Mich., close to the automotive capital at Detroit. Here Evans manufactures railroad loading equipment, truck and bus heaters, and oil and gas fired home heaters.

At Coos Bay a wide variety of items are produced resulting in a program of very high log utilization. Products manufactured include Douglas fir lumber, plywood, battery separators, battery separator veneer, molded plywood, broom handle stock, furniture stock, and many miscellaneous items.

The Canadian plant, at Vancouver, B. C., manufactures battery separators and battery separator veneer, and will shortly be producing many lumber items in a new modern sawmill now in the planning stage.

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R. W. Lyons to Head Northern Group

R. W. Lyons, of the William Bonifas Lumber Co., Neenah, Wis., was elected president of the Northern Hemlock & Hardwood Manufacturers association at that organizations recent annual meeting at Land o' Lakes, Wis. He succeeds A. E. Swanke, Tigerton Lumber Co., Tigerton, Wis.

Other officers and directors elected were:

Vice President—C. D. Zagelmeier, Michigan Pole & Tie Co., Newberry, Mich.

Treasurer—W. W. Gamble, Jr., White Lake, Wisconsin.

Directors elected were: Abendroth, Paul, Robbins Flooring Co., Ishpeming, Mich.; Aldridge, Ray, Ray Aldridge, Inc., Mohawk, Mich.; Boehm, John J., Lake Linden Lbr. Co., 161 W. Wisconsin Ave., Milwaukee, Wis.; Buchsieb, Louis, White River Timber Co., Bergland, Mich.; Christiansen, P. C., C. M. Christiansen Co., Phelps, Wis.; Copeland, A. R., Copeland Lumber Co., 135 S. La Salle St., Chicago, Ill.; Erickson, A. J., Cleveland Cliffs Iron Co., Negaunee, Mich.; Godell, Swande, Chassell Lumber Co., Chassell, Mich.; Good, C. E., Bay de Noquet Co., Nahma, Mich.; Himes, F. H., The Himes Company, Inc., Crandon, Wis.; Hobelsberger, J., Roddis Plywood Corp., Marshfield, Wis.; Knoke, Armin, Knoke Lumber Company, Appleton, Wis.; Lee, Juel, Birds Eye Veneer Co., Escanaba, Mich.; McIver, M. C., Penokee Veneer Company, Mellen, Wis.; Menzner, Fred, Menzner Lbr. & Supply Co., Marathon, Wis.; Venne, S. E., Atlas Plywood Corporation, Gladstone, Mich.

Bureau Chairmen elected were: Bureau of Conservation—John M. Bush, Negaunee, Mich.; Bureau of Economics—A. E. Swanke, Tigerton, Wis.; Bureau of Marketing—Abbott M. Fox, Iron Mountain, Mich.; Bureau of Transportation—Arvey Ahonen, Ironwood, Mich.; Bureau of Grades—George Houghton, Goodman, Wis.

Secretary-Manager O. T. Swan stated that according to latest Government reports, the growth of saw timber in the Lake States is now practically in balance with the cutting.

A general discussion of business conditions and prospects demonstrating a common feeling of optimism, and a belief that a recent dull period in some industries had been passed.

A lively discussion took place with respect to the recent O.P.S. order on railway cross ties. It developed that this order prices ties for the region considerably less than existing railway contracts. It also favors a type of tie dealer who is practically nonexistent in the region. The result of this, according to Charles Patterson, has caused a reduction of values to tie producers below the cost of production, and he stated it was an unsatisfactory and disagreeable situation. A committee was appointed to ask the O.P.S. for a rehearing.

Harold Crosby told of an investigation of compensation insurance rates incident to a change of policy by the insurance companies in the establishment of a single rate to apply to both sawmill and yard operations.

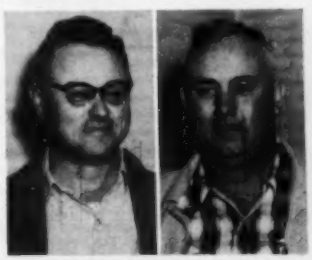
Made Vice-President —Timber Structures

John T. Gartrell, Kansas City, Mo., has been named vice-president of Timber Structures, Inc., according to announcement by W. J. Van Arnam, president, Portland, Ore. Gartrell, formerly Midwest division manager for the firm, is now in charge of both Kansas City and Chicago offices serving 15 midwestern states.

Changes at Foley, Fla.

Roy L. Westerfield has been named land department manager for the Proctor & Gamble subsidiary (Buckeye Cellulose Corp.) with office at the old Foley, Fla., headquarters of Brooks-Scanlon. He will report to Paul Honey, one-time division manager for Proctor & Gamble, named to represent the company in Florida.

Lester W. Foley, president and general manager of Foley Lumber Industries, will operate the old sawmill at Foley, Fla., and operate the harvesting of trees and maintenance of woodlands under contractual relations with Buckeye. John W. McCain, formerly woods manager for Brooks-Scanlon, remains with Foley Lumber Industries in general charge of the 440,000 acre woods operation, with Harry R. Davis, Jr., as wood production superintendent.



HARRY R. DAVIS, Jr. JOHN W. McCAIN

MITCHELL SLYTER, Wilson River Lumber Co., turns presidency of West Coast Dry Kiln Club over to LEONARD NESS, St. Paul & Tacoma Lumber Co.

Tacoma Man Heads Dry Kiln Club

Nicolai Door Manufacturing Co., Portland, Ore., was host firm at the annual meeting of West Coast Dry Kiln Club meeting in February. Club members toured the company's door plant and veneer kiln drying facilities prior to the business session.

Leonard Ness, St. Paul & Tacoma Lumber Co., Tacoma, Wash., was elected president of the club for coming year, succeeding Mitchell Slyter, Wilson River Lumber Co., Portland. Mr. Slyter presided as president for past two years.

The charter of the **Davidson Sash & Door Co., Inc.**, Lake Charles, La., has been amended to increase its capital stock authorization to $1,000,000.

B. N. Chaturvedi, deputy conservator of forests, U. P. Forest Department, headquarters at Nainital, India, who was sent by his government to Canada for six months to study modern logging methods. He arrived at Ottawa last October, subsequently going to British Columbia and will return to Eastern Canada and depart for India in April. While on the Pacific Coast he paid short visit to Oregon and Washington, there touring Crown Zellerbach Corp. tree farms, visiting manufacturing operations of Hyster Co. and Skagit Steel & Iron Works, and some forest products industries operations.

THE HUNDRED WESTERN SAWMILLS

which produced the most lumber in 1951

Here is The LUMBERMAN'S annual compilation of the one hundred western mills which produced the most lumber during 1951. Every effort has been made to obtain production figures from mills which may have produced enough lumber last year to qualify for inclusion in this compilation. There are two less mills in the 100,000,000 foot and up group, but exactly the same number, sixty-seven, in the 50,000,000 feet and up classification. While most firms reported for individual mills, a few have combined the cut of one or more plants. The production of the various divisions of the Weyerhaeuser Timber Co., is not included in this compilation. Seven of these mills which operated in 1951, would rate among the top producers. There were two or three other plants, probably eligible for this compilation, from which reports had not been received at press time. The Lumberman greatly appreciates the splendid cooperation it received from mills in supplying production data.

Firm Name	*Location*	*Lbr. Ft. BM.*
Potlatch Forests, Inc.,	Lewiston, Ida.	**265,036,191
The Long-Bell Lbr. Co.,	Longview, Wash.	259,592,422
Coos Bay Lumber Co.,	Coos Bay, Ore.	180,290,805
MacMillan & Bloedel (Can. White Pine Division),	Vancouver, B.C.	174,208,164
C. D. Johnson Lbr. Corp.,	Toledo, Ore.	168,491,000
Canadian West. Lbr. Co.,	Fraser Mills, B.C.	163,443,000
The Pacific Lumber Co.,	Scotia, Calif.	151,018,993
Irwin & Lyons Lbr. Co.,	North Bend, Ore.	129,761,308
Edward Hines Lumber Co.,	Hines, Ore.	125,570,000
Roseburg Lumber Co.,	Roseburg, Ore.	*118,772,000
Canadian Forest Products (Eburne),	Vancouver, B.C.	116,896,156
MacMillan & Bloedel (Chemainus Div.),	Chemainus, B.C.	115,656,192
The McCloud River Lumber Co.,	McCloud, Calif.	115,002,020
Pope & Talbot, Inc.,	St. Helens, Ore.	112,412,766
Santiam Lumber Co.,	Lebanon, Ore.	*108,000,000
St. Paul & Tacoma Lbr. Co.,	Tacoma, Wash.	105,648,571
Southwest Lbr. Mills, Inc.,	McNary, Ariz.	105,000,000
MacMillan & Bloedel (Somass Div.),	Port Alberni, B.C.	103,420,000
Alaska Pine Co., Ltd.	Vancouver, B.C.	101,906,398
Hammond Lumber Co.,	Samoa, Calif.	*97,473,000
Simpson Logging Co.,	Shelton, Wash.	96,805,311
MacMillan & Bloedel (Alberni-Pac. Div.)	Port Alberni, B.C.	94,362,659
J. Neils Lumber Co.,	Libby, Mont.	93,102,000
Diamond Match Co.,	Spokane, Wash.	93,000,000
B. C. Forest Products Co. (Cowichen),	Youbou, B.C.	91,000,000
Anaconda Copper Min. Co.,	Bonner, Mont.	90,506,482
Union Lumber Co.,	Fort Bragg, Calif.	90,000,000
Walton Lumber Co.,	Everett, Wash.	**90,000,000
Willamette Valley Lbr. Co.,	Dallas, Ore.	85,588,000
Western Forest Ind.,	Honeymoon Bay, B.C.	85,337,899
Pickering Lumber Co.,	Standard, Calif.	78,850,000
Oceanside Lumber Co.,	Garibaldi, Ore.	78,849,176
Brooks-Scanlon Lumber Co.,	Bend, Ore.	78,387,000
Pope & Talbot, Inc.,	Oakridge, Ore.	78,377,190
Universal Box Co.,	Vancouver, B.C.	77,081,827
Tahsis Company, Ltd.,	Vancouver, B.C.	76,000,000
B. C. Forest Products (Victoria Div.),	Victoria, B.C.	75,650,000
Coos Head Timber Co.,	Coos Bay, Ore.	73,627,590
The Long-Bell Lumber Co.,	Weed, Calif.	73,454,675
Oregon American Lbr. Co.,	Vernonia, Ore.	72,008,564
Diamond Match Co.,	Chico, Calif.	69,949,087
Medford Corp.,	Medford, Ore.	68,733,000
Booth-Kelly Lumber Co.,	Springfield, Ore.	67,618,582
Willamette Nat. Lumber Co.,	Foster, Ore.	67,074,000
California Barrel Co.,	Arcata, Calif.	67,000,000
Ralph L. Smith Lbr. Co.,	Anderson, Calif.	65,566,348
Ohio Match Co.,	Heutter, Ida.	64,100,000
Edward Hines Lumber Co.,	Westfir, Ore.	60,756,261
Westside Lumber Co.,	Tuolumne, Calif.	60,000,000
Pac. Pine Co., Ltd.,	New Westminster, B.C.	59,861,145
Pope & Talbot, Inc.,	Port Gamble, Wash.	59,848,342
Fir Mfg. Co.,	Myrtle Creek, Ore.	58,500,000
Schafer Bros. Lumber & Shingle Co.,	Aberdeen, Wash.	57,574,842
Dolly Varden Lumber Co.,	Arcata, Calif.	57,117,482
Robert Dollar Co.,	Glendale, Ore.	56,617,850
Boise-Payette Lumber Co.,	Boise, Ida.	**56,143,726
Hillcrest Lumber Co.,	Mesatchie Lake, B.C.	56,100,000
Cascade Lumber Co.,	Yakima, Wash.	56,000,000
Cal-Ida Lumber Co.,	Auburn, Calif.	55,000,000
The Long-Bell Lumber Co.,	Gardiner, Ore.	54,221,066
MacMillan & Bloedel (Great-Central),	Great Central, B.C.	52,140,000
L. H. L. Lumber Co.,	Carlton, Ore.	51,148,238
Inman-Poulson Lumber Co.,	Portland, Ore.	50,756,231
Klamath-Basin Pine Mills Co.,	Klamath Falls, Ore.	50,568,900
Magnolia Lumber Co.,	Ashland, Ore.	50,404,968
Biles-Coleman Lumber Co.,	Omak, Wash.	58,372,000
Collins Pine Co.,	Chester, Calif.	50,151,000
Ind. Lbr. & Mfg. Co.,	Independence, Ore.	49,771,574
B. C. Forest Products (Vancouver Div.)	Vancouver, B.C.	49,570,000
J. Neils Lumber Co.,	Klickitat, Wash.	47,413,047
Lincoln Lumber Co.,	Lincoln, Wash.	46,407,530
Shepard & Morse Lbr. Co.,	Westport, Ore.	46,267,780
Stebco, Inc.,	Vancouver, Wash.	43,610,943
High Sierra Pine Mills,	Oroville, Calif.	41,320,000
Harris Pine Mills,	Pendleton, Ore.	41,000,000
M. B. King Lumber Co., Ltd.,	Nor. Vancouver, B.C.	40,892,000
Scott Lumber Co.,	Burney, Calif.	40,798,000
Youngs Bay Lumber Co.,	Roseburg, Ore.	40,740,000
Valzetz Lumber Co.,	Valsetz, Ore.	40,568,000
Seaboard Lumber Co.,	Seattle, Wash.	40,557,825
Winton Lumber Co.,	Martell, Calif.	40,288,050
New Mexico Lbr. Co.,	Albuquerque, N. Mex.	40,000,000
Olympic Hardwood Co.,	Raymond, Wash.	39,647,823
Elk Lumber Co.,	Medford, Ore.	39,624,909
Engle & Worth Lbr. Co.,	McMinnville, Ore.	39,238,107
Fischer Lumber Co.,	Marcola, Ore.	39,134,000
Dwyer Lumber Co.,	Portland, Ore.	39,106,506
Timberland Lbr. Co.,	N. Westminster, B.C.	39,000,000
Rosboro Lbr. Co.,	Springfield, Ore.	38,786,000
Simpson Logging Co.,	Klamath, Calif.	38,378,048
Giustina Bros.,	Eugene, Ore.	38,083,224
Pilot Rock Lumber Co.,	Pilot Rock, Ore.	37,964,000
Alexander-Stewart Lbr. Co.,	Prineville, Ore.	37,868,757
Trask Lumber Co.,	Tillamook, Ore.	37,850,507
Deer Park Pine Ind.,	Deer Park, Wash.	37,648,246
Gilchrist Lumber Co.,	Gilchrist, Ore.	37,562,000
R. L. Smith Lbr. Co.,	Canby, Calif.	37,068,357
Sound Lumber Co.,	Arcata, Calif.	36,794,730
Oregon Lumber Co.,	Baker, Ore.	36,500,000
Nettleton Lumber Co.,	Seattle, Wash.	36,440,000

* Two mills. ** Three mills.

(A tabulation of major producing mills in the south, north and and northeast will appear in the April LUMBERMAN)

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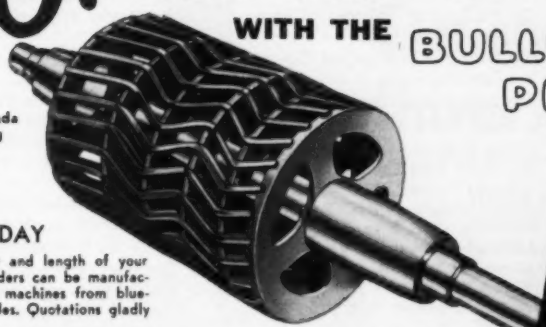

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PLYWOOD** VENEER** HARDBOARD

(Continued from Page 79)

4. Andrus Lumber Company, Inc., Dillard, Oregon
5. Arcata Plywood Corporation, Arcata, California
6. Campbell & McLean, Inc., Gold Beach, Oregon
7. Central Oregon Plywood Company, Elkton, Oregon
8. Cottage Grove Plywood Company, Culp Creek, Oregon
9. De Norte Veneer Company, Crescent City, California
10. Dillard Veneer Company, Dillard, Oregon
11. Durable Plywood Company, Arcata, California
12. Farwest Plywood Company, Kenmore, Washington
13. Forrest Veneer Company, Curtin, Oregon
14. Gordon-Ladley Plywood Products Company, Elma, Washington
15. Harbor Plywood Corporation, Riddle, Oregon
16. Hedburg Lumber Company, Brookings, Oregon
17. Hedburg Veneer Company, Harbor, Oregon
18. Hendricks Veneer Company, Puyallup, Washington
19. Holt Lumber Company, Cresswell, Oregon
20. Humboldt Veneer Company, Arcata, California
21. Interstate Plywood Corporation, Inc., Bandon, Oregon
22. Kosmos Veneer Company, Kosmos, Washington
23. M and M Wood Working Co. (Idanha Veneer Co.), Idanha, Oregon
24. Myrtle Point Veneer Company, Norway, Oregon
25. Pacific Laminates, Inc., Cummings, California
26. Pacific Veneers, Inc., Crescent City, California
27. Perkins Veneer Company, Roseburg, Oregon
28. Randal Veneer Company, Randal, Washington
29. Seattle Plywood Company, Renton, Washington
30. Standard Veneer and Timber Company, Crescent City, California
31. Standard Veneer and Timber Company, Fortuna, California
32. Three Rivers Plywood & Timber Company, Darrington, Washington
33. West Coast Veneer Company, Crescent City, California
34. Western Veneer Company, Sweet Home, Oregon

Fourteen more green veneer plants are either proposed or under construction and should be in production sometime this year. In this group are the following:

Green Veneer Plants—Proposed or Under Construction

1. Associated Plywood Mills, Inc., Gold Beach, Oregon
2. Capital Veneer Company, Salem, Oregon
3. Cascade Veneer Company, Enumclaw, Washington
4. Diamond Lumber Company, Tillamook, Oregon
5. Guistina Brothers Lumber Company, Eugene, Oregon
6. Lane Veneer Company, Eugene, Oregon
7. M and M—Idanha Veneer Company, Lyons, Oregon
8. Morton Veneer Company, Morton, Washington
9. Simpson Logging Company, Klamath, California
10. Skagit Veneer and Lumber Company, Concrete, Washington
11. Vancouver Plywood Company, Mill City, Oregon
12. Washington Veneer Company, Coos Bay, Oregon
13. West Coast Plywood Company, Drain, Oregon
14. Yreka Veneer, Inc., Happy Camp, California

One large green veneer plant costing some $200,000 was started last year at Youbou, B. C. by the Cowinchen Division of B. C. Forest Products Ltd. This is one of the largest and most modern green veneer plants yet put into operation in the West. Details and pictures of this operation appear in this issue.

PROGRESS IN BRITISH COLUMBIA

Considerable interest has been aroused by the development in British Columbia of new uses for weatherproof plywood, pressure-creosoted for resistance to marine borers and decay.

Following a number of exhaustive tests made by the Forest Products Laboratory of the U. S. Department of Agriculture at Madison, Wisconsin, covering a six-year period, other experiments were carried on in British Columbia which now establish:

1. Weatherproof fir plywood bonded by hot-press phenolic resin glue takes pressure creosoting with no adverse effect on its durability.

2. Penetration can be through and through, if specified, which leaves no untreated wood to attract or harbor marine borers or teredos.

The advantage of plywood in general construction is of course the speed of placing large sheets, and the minimum number of joints. With the proven protection of pressure creosote treatment, interest was soon aroused for its use in marine structures.

A number of installations have already been placed in service, especially plywood box pontoons for fishermen's floats. The Canadian Public Works Department recently installed 115 of them under a float at Westview.

The latest marine installation in British Columbia using creosoted plywood is for wing tanks for a floating drydock designed and constructed by Dominion Construction Co. of Vancouver for Burrard Shipyards and Engineering Works Ltd., acting under instruction from Jack McDonald, for use at Coal Harbor in Vancouver. Pressure treatment was done by Timber Preservers Ltd., New Westminster. James McLarin of Dominion Construction Co., Vancouver, was engineer in charge of the project.

Plywood covered "tanks" or towers were fabricated around a treated framework. When in place, the tanks act to "trim" the drydock and keep it on a level keel as it is submerged in the water when a boat enters for repairs.

Joints are sealed with mastic gum, and plywood is fastened to the framework with galvanized screws.

The need for wood preservation in marine service has been obvious for some time, especially as some wood structures have been known to become unserviceable in less than five years, due to decay.

Marine borers are even more destructive than decay in British Columbia coastal waters, and cases have occurred of piling and timbers being completely eaten through and rendered useless in less than a year a very costly matter.

The newly developed use of creosoted plywood seems a great forward step towards defeating the en-

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MILL LYONS, OREGON
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March 29, 1951

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Dear Carl:

We have had your SUNBO 36" machine in operation for nearly a year, and we can state without reservation that the machine has equalled or exceeded your statements regarding its performance in every way.

Our production in that mill has exceeded our expectations, at a cost below our most optimistic estimates. We have experienced no difficulties with sizes or crooked lumber, although we are running our saws four hours.

We think the machine is as good as the day it was installed, and we find our maintenance costs are negligible.

We should like to add that none of the men employed in that mill had even seen a log gang prior to their employment there, and that the simplicity of the machine's operation and maintenance is a large factor in its success.

Yours very truly,
MT. JEFFERSON LUMBER COMPANY
Walter D. Miller

Walter D. Miller

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South Forks Lumber Co., *Sweet Home, Oregon*
Hub Lumber Co., *Roseburg, Oregon*
Oscar Raines, *Hillsboro, Oregon*
Oregon Pulp and Paper Co., *Salem, Oregon*
Rainbow Lumber Co., *Eureka, California*
Shelton and Burr, *Roseburg, Oregon*
Bates Lumber Co., *North Plains, Oregon*
Erl Lumber Co., *Sandy, Oregon*
Grizzly Lumber Co., *Prineville, Oregon*
Pine Grove Mill, *Pondelton, Oregon*
Erion Lumber Co., *Portland, Oregon*
Wells Lumber Co., *Dayville, Oregon*
Larson Lumber Co., *Estacada, Oregon*
Silver Lake Lumber Co., *Silver Lake, Oregon*
Goodat Wood Industries, *Crescent, Oregon*
Steckmobile Lumber Co., *Sweet Home, Oregon*
Resinweld Plywood, *Tacoma, Washington*
Victoria Machinery Co., *Victoria, B.C.*
Boone Lumber Co., *Princeton, Idaho*

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emies of wood, and also opens up a new field of uses for this versatile material, such as in flood gates, as facing for bulkheads, for spill-ways, floats, deckhouses, and many other purposes.

SOUTHERN PROGRESS

Advancement of the southern hardwood plywood industry during 1951 was along the lines of technical improvement involving an increased understanding of gluing techniques by the operators. This has been a movement accompanying the greater use of the laboratory and inspection service of Southern Plywood Manufacturers' Association. Thus, in the mills there may be found better production control, and a trend toward higher quality products, with diversification of products in specialized markets. It is believed this trend toward search for business will extend into 1952 to a much greater degree.

The southern producers through their Association and its technical service, have evidenced in grading and labeling within their industry; discussed such factors in connection with their market value for those who insist on specification performance. These discussions originated to some extent in the importance of serving defense needs, and in seeing to it that military and other defense specifications do not stray too far from established commercial standards which themselves are the product of consumer need and proven production standards.

These trends have brought better understanding between the plywood manufacturers and their suppliers, and this is expected to lessen resistance to change in technique and equipment as the need is found. During 1951, there was substantial improvement in equipment.

HARDBOARD DEVELOPMENTS

If William H. Mason, the chemist, working on a process for utilizing waste from southern pine hadn't dallied so long over his lunch one historical day some years ago, Masonite might not have been discovered and we might not now be entering a great hardboard age.

Mr. Mason had discovered that he could produce good insulation board by softening the lignin binding cellulose fibres in wood and then separating the fibres by an explosion of steam under high pressure. He had placed a sample in the press before going to lunch and set the gauges with the steam turned off. But there was a leak in the gauge and by the time Mr. Mason returned from lunch he found, to his amazement, that he didn't have the half-inch board he had expected, but a board one eighth inch thick, smooth, dense and exceedingly strong. Thus a new product was born.

While Masonite Corp., with its original plant at Laurel, Miss., and its new plant at Ukiah, Calif., which came into production last year, produces more hardboard than all the other plants combined, the new hardboard industry is coming along by leaps and bounds. Total annual production of hardboard is now estimated, on a comparable square foot basis, as about half that of Douglas fir plywood or some billion and a half square feet per year.

The new development in hardboard has been and should continue to be largely within the forest industry, principally by sawmills and plywood plants, which have the raw material.

While there have been, still are and likely always will be many hardboard production problems, many are being gradually ironed out. Much has been learned during the past few years about the basic facts of hardboard production.

It is significant that two western hardboard plants doubled their capacity in 1951.

The industry's newest plant that of the Oregon Lumber Company, Dee, Oregon, is just coming into production. The detailed story on this new plant with many illustrations appears elsewhere in this issue of the LUMBERMAN.

Also in this issue is an illustrated article on the expanded plant of the Pacific Veneer & Plywood Division of Canadian Forest Products Ltd., New Westminster, B. C.

Hardboard producers are already taking steps to establish some sort of organization to develop uniform grades and perform other recognized functions normally handled by such an organization.

Hardboard is in its infancy. One authority states that it is not yet a recognized commodity such as steel, lumber, plywood, shingles. By that he means it is so young that its many uses and great potentialities are not yet fully realized. He says, however, the time is not far distant when hardboard will take its place as one of the most important of many forest products.

One of the important developments in the field during the past year was the opening of the Novoply plant at Redding, California. This board is made by Shasta Plywood Inc., a subsidiary of the United States Plywood Corp. It is a specialty board and not considered by its manufacturers as in the same category as other hardboards. There are other hardboards that are likewise specialty products. An article on the new Novoply plant, written exclusively for the Lumberman, appears in this issue.

The following hardboard plants are either now in operation, under construction or planned:

Hardboard Plants

Masonite Corp., Laurel, Miss.

Masonite Corp., Ukiah, Calif.

Superior Wood Products Co., Duluth, Minn.

Chapman Mfg. Co., Corvallis, Ore.

Forest Fibre Products Co., Forest Grove, Ore.

U. S. Gypsum Co., Greenville, Miss.

Oregon Lumber Co., Dee, Ore.

Canadian Forest Products Ltd.; Pacific Veneer Div., New Westminster, B. C.

Cascades Plywoods Inc., Lebanon, Ore.

Coos Bay Lumber Co., Coos Bay, Ore.

Shasta Plywood Inc., Redding, Calif.

Anacortes Veneer Inc., Anacortes, Wash.

Versatile Products Inc., Anacortes, Wash.

International Fibreboard Ltd., Gatineau, Quebec

Weyerhaeuser Timber Co., Longview, Wash. (Pilot Plant)

Weyerhaeuser Timber Co., Klamath Falls, Ore.

Long-Bell Lumber Co., Longview, Wash. (Pilot Plant)

Oregon Forest Fibre Products Co., Pilot Rock, Ore.

Curtis Companies, Clinton, Iowa.

Rock Island Millwork Co., Rock Island, Ill.

Abitibi Power & Paper Co., Sturgeon Falls, Ont.

Fibracel SA de C. V. Cinbad Velles, San Luis Potosi, Mexico.

Puget Sound Products Co., Houghton, Wash.

Washington Hardboard Co., Raymond, Wash.

Montana Hardboard Inc., Missoula, Mont.

There are several other companies known to be seriously considering building hardboard plants.

Business Papers Praised

Kenneth L. Waters, head of media in the apparatus division of the General Electric Company, in a recent address praised business papers saying that "They provide a low-cost method of multiplying the power of our sales force."

OVER HALF BILLION FEET OF LUMBER NEEDED FOR AMMUNITION BOXES

Discussions with Department of Defense officers and representatives from operator-contractor managed ordnance plants regarding procurement and production of nailed wooden boxes and election of Association officers, highlighted the recent National Wooden Box Association's 53rd Annual Meeting held in New Orleans.

The year's requirements, beginning July 1, for ammunition boxes were estimated at 500 million board feet exclusive of small arms boxes. This total, it was pointed out, will require nearly one and one-half percent of the nation's entire lumber output based on a 35-billion-foot total.

H. H. Pein, Pein Box Company Oregon, Ltd., Portland, presided over the sessions until the election of his successor, D. A. McNeill, Jr., McNeill, Lauff & McNeill, Thomson, Georgia, new association president.

Other officers elected were First Vice President R. F. Miles, Rathborne, Hair & Ridgway Box Co., Chicago; Second Vice President Morris Milbank, Rogue River Box Co., Grants Pass, Ore.; and Third Vice President Leslie J. Chaffee, Chaffee Brothers Co., Oxford, Mass.

Reelected were Executive Vice President C. D. Hudson, Washington, D. C., and Treasurer P. John Galbraith, John Galbraith, Philadelphia, Pa.

Members during the business session approved a continuing and vigorous trade promotion program reflecting the recommendation of retiring president, H. H. Pein who, in his address, listed trade promotion as one of the Association's primary purposes.

Cypress Reforestation Program

Establishment of costs of raising cypress trees is being effected by Joseph Rathborne Land and Lumber Co., Harvey, La., in cooperation with Louisiana Forestry Commission, Southwestern Louisiana Institute, and Southern Forest Experiment Station. The company objective is to bring 45,000 acres of swamp land into useful production.

In 1948 the company set out wild one and two year old seedlings, and during the same year Southwestern Louisiana Institute had propagated three or four thousand seedlings. In 1949 the company planted 3,041 seedlings from SLI and 142 wildings at 80 per acre; in 1950, 20,347 SLI seedlings at 565 per acre; in 1951, 141,262 seedlings at 265 per acre. Currently, the company will be completing its planting program of 600,000 seedlings. The state nursery at Oberlin planted 3,000 pounds of air dried seed, culling 1,800,000 seedlings. SLI produced another 200,000 seedlings from 600 pounds of seed.

Eight month old stock ranged from 24 inches to 60 inches, with a 30-inch average height. Two year old seedlings have reached 7 feet high.

Costs per 1000 are estimated at: collecting seed, $2.00; nursery planting and growing, $5.00; transplanting seedlings, $16.75; total, without overhead or supervision, $23.57 per M. At 70 years, the cypress would contain 110 feet Doyle scale, and be putting on about 1½ inch per year to 90 years, when it would contain 250 feet. From 90 to 110 years its content would increase to 450 feet Doyle scale. Thinning could be effected at 70 years.

James Miller who for years worked in Northwest sawmills in key capacities and who returned a few months ago from the Philippines where he was superintendent of the Basilan Lumber Co., died recently.

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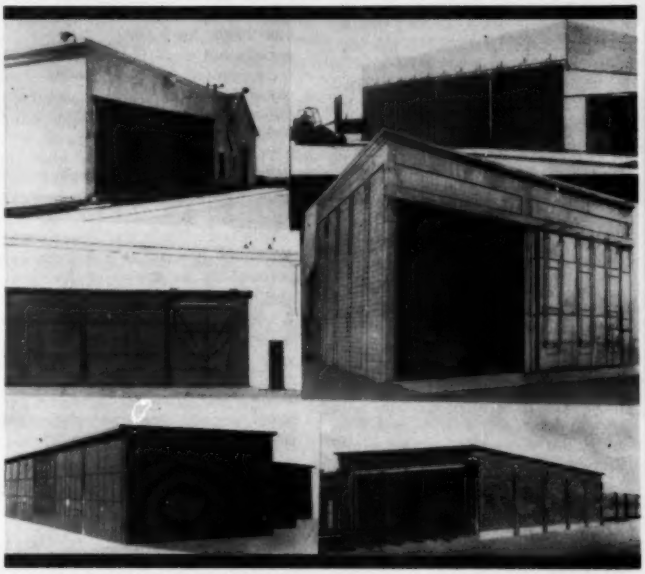

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HARDBOARD DEVELOPMENTS

(Continued from Page 81)

for hardboard since the two products are closely allied in many end uses.

HOW WILL AN INCREASE IN HARDBOARD PRODUCTION AND SALES AFFECT PLYWOOD?

First, let us consider the nature of these products. Hardboard has no grain or winter or summer-growth markings. It can be produced in panels varying in thickness from ⅛" to 5/16" by 4' in width and 16' in length. Panels thinner than ⅛" and wider than 4' are also available from some sources. Hardboard can be produced in varying degrees of density and hardness for different or specific purposes. It has the same strength in both directions, has low moisture absorption, and is dimensionally relatively stable. It has high resistance to abrasion with a good decorative surface for paints, lacquers, enamels, or lamination of fine veneers or plastic. The highest volume of sales in hardboard is in thicknesses thinner than the volume production thicknesses of plywood. Normally it is sold in two types; standard and tempered, and in a wide range of lengths to fit customer demand.

Plywood is typically manufactured in heavier thicknesses than hardboard, is lighter in weight for the same thickness, and has good nail- and screw-holding properties. It is rigid, stiff, and highly resistant to shock. The bulk of production is in one standard size, 4' wide and 8' in length, but there are a wide variety of grades, dependent on surface appearance, and several types depending on the laminating adhesive.

Over the years plywood has built up public acceptance to the point that it has now become a standard commodity. Hardboard has not, as yet, reached that stage and requires much greater sales effort and merchandising effort to obtain public acceptance. The relative price level existing in hardboard and plywood in recent years has materially and beneficially affected the acceptance of hardboard. It was not until the price of ¼" Douglas fir plywood approached the price of hardboard per sq. ft. in the thinner thicknesses that hardboard sales actually gained momentum. As the price of plywood increased, because of raw material increases and other uncontrollable cost increases, greater attention has been obtained for hardboard from the general public and from industry. The latter demand is today the greatest single market for hardboard.

In addition, as the plywood output expanded the production of lower grades assumed a greater proportion of the total output. This was natural, of course, because plywood veneers are controlled by nature and as lower grades of logs were used to increase output, the percentage of sheathing and one-side material naturally tended to increase. This does not mean that the actual quantity of high-grade plywood volume decreased in volume, for it has actually increased since even the lowest grade of log will produce some top-quality veneer, but it is in the matter of percentage that the disparity has become evident. On the other hand, the quality of hardboard has been improving, through research and quality control, and this improvement can be maintained because the raw material is homogeneous and the end product is a manufactured product.*

There is, obviously, a place for both products in the expanding markets in the United States and the world, but it is equally true that hardboard is becoming a strong competitor of plywood in many markets, particularly at the price levels applying during the past few years.

Likewise, hardboard can compete with other types of panel material, such as metal, plastics, glass, and solid wood, in many markets if we assume the relative factors of demand, supply, and general business conditions continue.

SALES AND MERCHANDISING PROBLEMS

The principal problem that will be faced by the newcomer in hardboard production is in sales and merchandising.

As a specialty product, the product historically has required specialized selling, advertising, and promotion of a high degree. Since the Masonite Corporation was virtually alone in this field for many years, an aggressive pattern in this field has been established and in normal times the hardboard producer undoubtedly will be faced with performing many of the same functions in sales.

There is as yet no hardboard association to assist in the promotion of hardboard from an industry standpoint. The plywood producer and the lumber producer will have to recognize that in the hardboard field he is on his own rather completely. It is likely that he will, in competitive times, have to set up a sales and merchandising organization and procedure that is much more complete and much more aggressive than anything he has had to contemplate in plywood and lumber.

Sound merchandising policies that will build sales over the years must be established and faithfully adhered to. A firm pricing policy with growth through advertising, merchandising salesmanship, and service would seem to be a necessity. Continuing research to improve quality at the plant level and sales research at the consumer level to improve specifications and develop new uses also seem to be required. Finally, a strong field organization contacting contractors, builders, home owners, architects, stores, shops, lumber dealers, and industrial prospects must be trained and supported for the long pull.

Undoubtedly in the future there will be set up an association of hardboard producers which will develop uniform standards and grades and ultimately can be of assistance in advertising and promotion to gain acceptance of the material as a standardized product. In the meantime, however, the individual manufacturer must do the job of selling the material as a product, and his brand name along with it.

Sales to the consuming public are generally made in two ways: (1) with a large sales organization direct from the manufacturer to the consumer, or (2) to wholesalers and dealers who in turn sell the users. Hardboard over the years has followed the second method, and in this case it generally parallels the sales of plywood, doors, millwork, lumber, and insulating board. Time has proven this method entirely sound, for it has given the widest possible distribution of hardboard products at a relatively low cost to the consumer.

COMPANION PRODUCTS

Over the years insulating board and hardboard have been companion products and often sales are made in mixed carlots. Perhaps this came about because the Masonite Corporation originally was also a manufacturer of insulating board and the two products historically, therefore, tended to follow the same channels of distribution. In sales and merchandising policies the two products also have been as close as ham and eggs. Hardboard has been available

*See appendix for additional comments on plywood costs and prices.

Resawing . . . 1/10" Strips with the McDONOUGH 44"

VERTICAL BAND RESAW

Anson-Gilkey Co. of Merrill, Wisconsin, needed a high-speed resaw that would cut 1/10" strips, with precision accuracy and minimum kerf wastage. They specified a McDonough 44" Vertical Band Resaw . . . and got exactly what they needed!

For more than sixty years, users the world over have found that for speed, accuracy and versatility, McDonough Band Resaws cannot be equalled. There are reasons:

- Independently adjusted feed rolls
- Exclusive gear type transmission
- Accurately balanced wheels
- Knife-edge sensitive type saw strain
- Electro-filmed feed roll gears and shaft
- And many more proven design features!

For gauge, center, bevel or rip sawing of stock up to 12" wide and to a maximum depth of 25" . . . for greater dependability and top performance—*Specify a McDONOUGH 44" VERTICAL BAND RESAW!*

Write for Complete Information, TODAY!

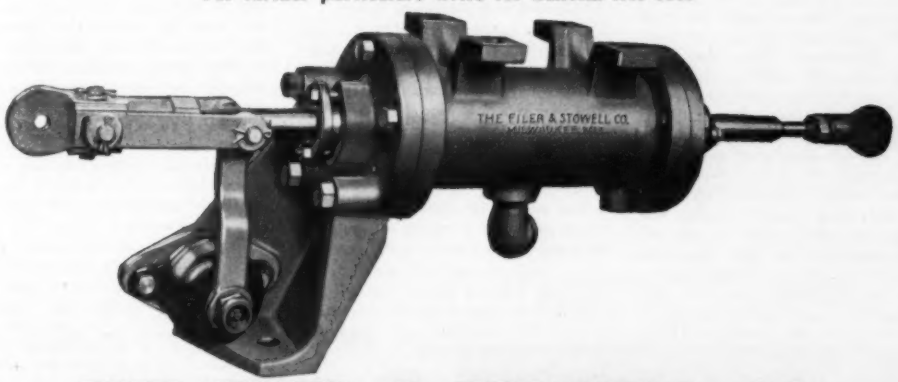
FREE . . . Your Copy of This New Bulletin! Send For It, TODAY!

McDONOUGH MANUFACTURING CO.
WORLD'S LARGEST PRODUCER OF BAND RESAWS
1507 GALLOWAY EAU CLAIRE, WIS.

FILER and STOWELL
Latest Improved Valve Controller

OPERATES WITH ANY STEAM OR AIR PRESSURE.
HAS MORE POWER AND USES LESS STEAM OR AIR.
CAN BE USED WITH ANY SHOT GUN FEED OR TWIN ENGINE FEED.

For further particulars write for bulletin No. 533.



THE FILER & STOWELL CO.

MILWAUKEE (7), WISCONSIN

COMPLETE LINE OF HEAVY HIGH GRADE SAW MILL MACHINERY SINCE 1856

to distributors and dealers in straight carlot or pool car quantities, alone, or mixed with insulating board products. Thus the general public, and more importantly the principal users of hardboard have come to accept the fact that all dealers and distributors selling insulating board also carry and have available for sale various hardboard products. This arrangement has proven of mutual benefit to both the retail lumber dealer and the manufacturer, as it enables the manufacturer to ship carlot quantities of each product to the distributor at carlot prices. Through the distributor, the retail lumber dealer can pick up the quantities, sizes, thicknesses, and types of both products he requires without carrying a large inventory, at a nominal mark-up over the dealer carlot price. This method of distribution also combines the sales effort of the manufacturer, the distributor, and the retail lumber dealer in the promotion of these items to the consuming public, through the coordinated efforts of the manufacturer's salesmen, the distributor's salesmen, and the dealer's salesmen.

The exception to this method of distribution has been in the sale direct to industry. It has been the policy of manufacturers of both hardboard and softboard to sell direct to large industrial users in carlot quantities.

The development of large-scale hardboard production in the Pacific Northwest also has interesting implications in the marriage of several products to produce a new product with fine market potentialities. Plyron, which is a hardboard-faced Douglas fir plywood, is an illustration of this. This combines the hard, smooth, grainless surface of tempered hardboard with the light weight, strength, rigidity, and nail- and screw-holding qualities of plywood. These panels can be produced in any thickness over ½" that plywood can be produced in normal manufacture. It is the ideal panel material where thickness, strength, and continuous smooth surface are desired. It may be the answer to many problems in the furniture and cabinet industry, transportation, signs and billboards, and in construction for concrete forms, partitions, floors, decks, cabinet doors, and many other uses.

ANOTHER POSSIBILITY

Another possibility is in the use of hardboard in the manufacture of a low-cost, paint-grade flush door. Hardboard was used at one time for door panels in a panel door, but this was not altogether successful and was looked on as an expedient of the shortage period. This does not mean that a good panel door could not be made of hardboard, but it now appears that the best market for the future is as a surface material for a flush door or possibly as an underlayment for fancy wood veneers on flush doors. Most of the production problems that were originally encountered have been solved, and it now appears that hardboard may give the Pacific Northwest door manufacturers an opportunity to meet competition from paint-grade doors, and still continue manufacture of the high-quality wood flush doors for the areas which demand stain finishes on such doors.

Another product which has possibilities is the marriage of two other materials, tempered hardboard and lightweight insulating board. These panels combine thickness, stiffness, light weight, thermal and sound insulation with a surface that is hard, dense, smooth, abrasive-resisting, and highly paintable. This, then, can be used as partition material or dry wall finish for many types of construction.

Simpson Allwood Hardboard, manufactured by the Oregon Lumber Company at Dee, Oregon, will be sold direct to the building material wholesaler or jobber for further distribution through him to the retail lumber dealer and the consuming public. Industrial buyers and fabricators will also be sold in carlot quantities. Sales will be on a national basis within the limits imposed by freight rates, an important factor in the distribution of both hardboard and insulating board.

Sales of hardboard will be handled by the nine Simpson Regional Sales Offices and 36 sales supervisors and salesmen will work with distributors and dealers on the new product along with the sale of Simpson insulating board. There will be specialty salesmen contacting the industrial trade on hardboard as well, which will be in addition to the territory salesmen working with wholesale distributors and lumber dealers.

An advertising and promotional program is being set up and will be launched to time with the introduction of the material to the trade all over the United States.

CONCLUSION

Growth in the production of hardboard is to be expected in the Pacific Northwest, but the extension of markets for the product will require intensive promotion in the years ahead and aggressive product research looking to the development of new uses, or combination products which will substantially increase consumption over present levels. Newcomers in the field should anticipate these sales and merchandising problems and gear up to meet them since in the immediate future they will be more pressing than the production problems.

*APPENDIX

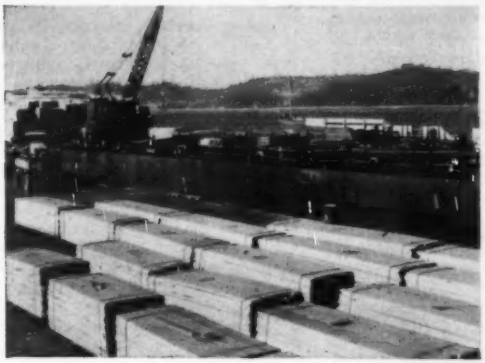
Hardboard producers have not had to increase prices to offset equally high raw material and processing costs because as a manufactured product it has responded readily to research and technological improvements to offset these cost increases. Thus profit margins have not been endangered by the relatively stable price level in hardboard. The necessity for plywood prices to respond immediately to inflexible cost increases has become increasingly evident and the myth of the bottomless profitability in the production of plywood has been recently and painfully exploded. The fact is that plywood, as an industry, has relentlessly climbed, or been pushed, to a dangerously high cost plateau and is now in the unenviable position of facing a most distasteful dilemma. Prices can be permitted to advance (within the limits imposed by recent O.P.S. ceilings) in which case total physical demand will drop off with each percentage increase at a time when the impact of new capacity makes it imperative that total demand be expanded. The alternative choice is equally unpalatable. Maintaining existing price levels in the face of inflexible raw material costs and steadily increasing labor tax and overhead costs inevitably will squeeze profit margins within impossibly narrow limits. This is a classic in the inexorable workings of the law of supply and demand, a law which an industry and a bureaucracy can suspend during a national emergency, but which can never be permanently abrogated, not even by executive fiat.

There is, of course, no easy solution. The thrashing around will intensify and a temporary balm supplied by whipping up demand through additional advertising and promotion on radio, television, contests, and other time-tested gadgets of the huckster trade will ensue. This will be, at best, only a partial answer.

A more difficult, a longer range but a more rewarding effort to most

(Concluded on Page 223)

PACKAGED LUMBER SPEEDS LOADING



In the Pacific Coast loading operation shown here, Packaged Lumber is easily and quickly loaded on a converted LST.

● Mill operators and dealers who have started to package their lumber have found three advantages in the practice:

HANDLING COSTS ARE CUT. Carriers can be loaded and unloaded in ¼ to ⅕ the time required for handling loose lumber, and they spend more time carrying pay loads, less time waiting to be loaded and unloaded.

INVENTORY IS MORE ACCURATE. When lumber is packaged, varieties, grades and sizes can be kept together, and tallying is quick and easy.

CUSTOMERS GET BETTER SERVICE. Packaged Lumber can be delivered to yard or job site quicker and in better condition than loose lumber. Packages remain tight and safe until ready for use, and danger of damage and pilferage is sharply reduced.

One machine, Gerrard's Model G, and one size round steel strapping is all you need to package your lumber. Contact a Gerrard engineer for further information about the economies of Packaged Lumber and the advantages of the Gerrard Method of Strapping. His advice is available free of charge. Write for a free copy of the *Blue Book of Packaging.*

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GERRARD STEEL STRAPPING DIVISION
UNITED STATES STEEL COMPANY
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USS

UNITED STATES STEEL

American's THE BUY!

IMMEDIATE DELIVERY!

Cash in on today's lumber profits with highly-efficient, modern American equipment

★ **MORE ACCURATE CUTTING** proved over nearly half a century of use.

★ **FASTER SAWING** with American's high-tension feed.

★ **GREATER SAFETY** with American's great protection features.

★ **LONGER LIFE** and lowest upkeep with American's rugged construction.

Thousands of Experienced Lumbermen Rely on The Great American Saw Mills, Edgers, Trimmers, Cut-off Saws and Shingle Machines.

	Headblock Opening	Carriage Length
American No. 1 Mill	38″	16′
American No. 3 Mill	44″	20′
American Porta-Mill	34″	10′

Write Today for Details About American —
Choice of Leading Lumbermen for Two Generations

You will always find American Saw Mills in stock at:

BURTON SAW & SUPPLY CO.
Eugene, Oregon

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FEENAUGHTY MACHINERY CO.
Portland 14, Oregon

STAR MACHINERY CO.
Spokane, Washington

AMERICAN SAW MILL MACHINERY CO.
Established 1903
HACKETTSTOWN, N. J.
"American" Saw Mills and
"Monarch" Woodworking Equipment

Novoply

(Continued from Page 144)

The plant is presently operating continuously three shifts, seven days per week. Thirty-eight men are employed on each of four shifts. Production capacity of the mill is rated at 30,000,000 square feet per year on a ⅜" basis, but present indications are that this figure will be exceeded.

Key personnel include Gene Brewer, President and General Manager; Warren Smith, Chief Engineer; Ken Morrow, Production Manager; William Marander, Superintendent; William Harding, Quality Control Supervisor, and Dan Langford, in charge of the laboratory.

Lawrence Ottinger, president of the plywood company, says of Novoply: "Novoply, we feel, is the most important development in the wood industry in thirty years.

"When plywood was perfected, an important step was taken in the development of better forest products.

"A second important contribution —the introduction of hardboards— was another milestone to better utilization of forest sources.

"With Novoply, a third major step has now been taken. Novoply is a new all-wood material superior in many aspects to any wood product yet developed."

New Oregon Safety Code applying to loading blocks, on page 38 specifies as follows:

Paragraph 3.71—"Mainline lead blocks shall be... bolted with not less than two bolts through the shells below the sheaves."

Paragraph 3.73—"Mainline lead blocks for loading shall have a sheave diameter of not less than 16 inches the diameter of the mainline."

Paragraph 3.74—"All blocks shall be fitted with line guards to prevent fouling."

We are happy to announce that the Skookum blocks listed at right have been completely re-engineered to conform to the code. These new blocks are now available.

For SAFETY'S *Sake, Specify* SKOOKUM BLOCKS
WE CUSTOM BUILD TO YOUR SPECIFICATIONS.

COMPLY WITH SAFETY CODE

A-10T—Bronze bushed, accommodates ⅜" wire rope.

210—Timken roller bearing block. Accommodates ⅛" wire rope.

212—Timken roller bearing block. Accommodates ¼" wire rope.

414T—Timken roller bearing block. Accommodates ⅞" wire rope.

2216T—Timken roller bearing block. Accommodates 1" wire rope.

2218TM—Timken roller bearing block. Accommodates 1⅛" wire rope.

SKOOKUM CO., INC.
8504 N. CRAWFORD · PORTLAND 3, OREGON

B. C. Plywood

(Concluded from Page 82)

standards publications produced by building and loan agencies will be considerably assisted by this development.

On the present standard will be based the association's program of providing design information on Douglas fir plywood. It is expected that a planned promotional campaign this year will instruct a larger specific group in the potentialities of this versatile building material.

In addition to the expansion previously referred to, B. C. Forest Products established a green veneer mill at Youbou on Cowichan Lake early last year, and veneers are being shipped from there to the new Victoria plywood plant. Prior to completion of its plywood plant at Quesnel, Western Plywood operated a veneer mill at the site for several months.

Expansion now under way at the Port Alberni plywood plant of MacMillan & Bloedel will increase capacity about one-third. Prior to the merger of H. R. MacMillan Export Co. and Bloedel, Stewart Welch, the latter company had announced plans for a plywood mill, but the consolidation of the two companies resulted in concentrating the installation of new equipment at the existing (MacMillan) plant. This new equipment includes: One 5-line 10-section Moore Cross-circulation dryer; a Globe taper, and at the press end two Laucks glue spreaders, one American Manufacturing Press charger; one 15-opening 54 x 106" platen Columbia hot press, and one American Manufacturing Co. automatic press unloader.

Alaska-Wrangell Mills

T. C. Takahashi, Seattle born Japanese American importer and exporter, states that the Alaska-Wrangell Mills will be in operation as soon as weather permits. The mill is located at Wrangell on tidewater and the Stikine River.

Officers and directors of Alaska-Wrangell are the following:

President, Treasurer and Director, C. T. Takahashi, Seattle.

Executive Vice President and Director, C. R. Bordeaux, Olympia, Wash.

Directors, W. A. Rushlight, Portland, John J. Lucas, San Francisco, Leonard Grewe, Seattle, Wash., Millen F. Kneeland, Portland, Uno Fogelstrom, Seattle, H. L. Fuller, Omaha, Neb., Bert LeBron, Omaha, Neb., R. E. Valkenburgh, Seattle.

Oregon Lumber Co.

(Continued from Page 99)

which edges the sides of the panels, discharging directly to feed table of another Mereen-Johnson trimmer. This second M-J machine has the multiple function of trimming the ends, converting the 16 ft. panels into two 8 ft. panels and brushing off the finish surface in a single pass through the machine unit.

Each of the Mereen-Johnson trimming units is equipped with Reeves variable-speed transmission for powering the feed at variable speeds. Trims removed from the panels are reduced to fines by special auxiliary saws along side the trim saws and the fine material picked up by a Northwest Copper Works blower system using Bayley Blower Co. exhauster. This system delivers the fines to a Convair material-handling system using a Roots-Connersville Blower Corp. rotary positive blower, for transporting this dry board material through 3 in. pipe at 5 p.s.i. to the power plant—1600 ft. distant—where it is utilized as fuel.

Finished panels are package wrapped, stacked on pallets, and transported by Hyster lift truck either to temporary storage or to loading platform for rail shipment.

Electrical Features

This hardboard plant's unique processing is augmented by strictly modern electrification. Nearly all of the major electrical apparatus was supplied by Westinghouse Electric Corp. Electric power is received from company powerhouse at 2400 volts, the power main connecting to a bus in enclosed switchroom on second floor of hardboard plant. Ten feeders lead from here to refiners, motor generator set, defibrators, circulating pump, hot press, wood chippers, and a 1000 KVA power center reducing power to 480 volts. This power center, containing air-cooled transformer and enclosed metalclad low-voltage circuit breakers, feeds circuits protected by molded case type low voltage air circuit breakers.

The Downingtown forming machine is sectionally driven by Westinghouse DC gear-motors of 5 to 10 h.p. with adjustable speed range between 10 and 80 l.f.p.m. These drives use a Rototrol regulator, a rotating amplifier to correct any speed variations that may occur while running at any given speed. Press motors are controlled as a unit, speed regulation of entire drive obtained by regulating main generator voltage.

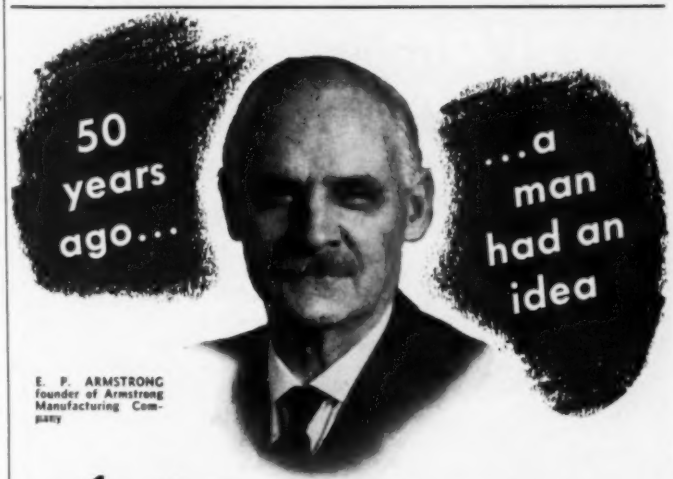
Of 87 electric motors in the plant—nearly all Westinghouse—26 are gearmotors of rugged industrial type of 1 to 10 h.p. for low-speed high-torque requirements; and 61 general purpose and special-duty motors from 3 to 450 h.p. to handle higher speed requirements.

Visitors going through this plant are impressed by the extensive applications of V-belt drives. Without prying under covers to disclose what makes the pumps, rolls, belts, feeders, transfers, etc. tick at least thirty-seven sets of V-belt drives can be observed. Very few use but single strands; some of the drives are made up of 14 strands.

The hardboard plant is protected throughout from fire by a Rushlight Automatic Sprinkler Company system, Portland, Oregon.

"Lebonite" is the trade name that will be used on the new hardboard to be manufactured in the plant of **Cascades Plywood, Inc.**, which will soon be on production.

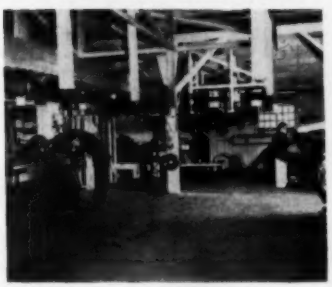
The sawmill at Chahalis, Wash., formerly known as the **Tufts Bros. Lumber Co.**, is now known as the **Owen & Tufts Lumber Co., Inc.** The company is building a new mill which is expected to have a daily capacity of about 50,000 feet.



E. P. ARMSTRONG
founder of Armstrong Manufacturing Company

Armstrong has been serving FILING ROOMS every day since...

Fifty years ago, E. P. Armstrong, a saw filer by trade, first developed a swage that permitted him to do a more accurate job. Other saw filers saw this device and wanted one just like it. This was the beginning of a firm that has been serving saw mills around the world every day since then. Armstrong is proud of its fifty year record, and more proud of the precision filing room equipment it builds today . . . the finest available.



A familiar scene in today's mill operations is a modern, efficient filing room equipped with Armstrong Precision Saw Sharpening Equipment.

50 years serving filing rooms

Armstrong SAW SHARPENERS

ARMSTRONG MANUFACTURING CO.

2135 N.W. 21st Ave. Portland 8, Oregon

Founded in 1902 by E. P. Armstrong

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Bearings

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★ BETTER BEARING SERVICE KEEPS THE BEARINGS ROLLING

When bearings play such an important part in carrying an industry's work load day after day, the better the bearing service, the better production rolls. Our "better bearing service" has been built to keep 'em rolling—with fast replacements, when needed—complete advice and help from our engineers on bearing changeovers, applications to new equipment, maintenance—complete stocks in five strategic Northwest locations.

We're as near as your telephone . . . make a habit of calling on Bearing Sales for "better bearing service."

★ BEARING MAINTENANCE REPORT—a regularly published, handy reference source for answers to questions on maintenance, new bearings and applications, improvements in methods . . . a note on your letterhead will bring it to you. Won't you drop us a line?

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Arthur Crippen, Sr. Dies

Arthur Crippen, Sr., widely known Northwest sawmill superintendent died at Tacoma, Wash., February 12. Mr. Crippen was born in Evert, Mich., March 19, 1884. He came to the Northwest in 1903 locating at Hoquiam, Wash., where he went to work in the mills. A brother had preceded him to the Northwest. During the first World War, Mr. Crippen became night foreman in the old Eureka mill at Hoquiam. His first job as superintendent was at the Eastern Lumber Co., Centralia, where he remained from 1920 to 1924. He was superintendent for five years at the Leudinghaus Lumber Co., Dryad, Wash. In 1929 he went to Port Moody, B.C. where he remained seven years as superintendent of the Thurston-Flavelle Co. He was then superintendent of the Alberni Pacific Co., Port Alberni, B.C. from 1941 to 1944 when he retired to Sumner, Wash.

Mr. Crippen is survived by Mrs. Crippen, two sons, Arthur and Don, and a daughter, Mrs. Richard Fisher and three grandchildren.

Herbert Moss, associated with the Joyce lumber interests in the sales departments of the old Trinity County Lumber Co., Groveton, Texas, and the Tremont Lumber Co., at Rochelle and Joyce, La., has entered the wholesale lumber business, with an office in the First National Bank building, Shreveport, La.

Hardwood Plywood

(Continued from Page 83)

before the veneer goes to the grading table, after which it's ready for glu-in. Either Melomine or Plaston or Monsanto urea is spread, and then either the 16-opening 106-inch Plycor hot press or the 10-opening 80-inch Plycor hot press comes into use.

After panels come from the press, those of walnut and oak are hand sponged with one percent oxalic acid to wash out stains. It was found that this step if performed mechanically left rings.

From saw and sanders, the panels are checked and sent to the "beauty parlor" for minor quality improvement, after which they face final grading.

The 100-inch double row endless panel machine on which scarfed plywood is glued up for use in making long length marine grade plywood was furnished by the Handy Manufacturing Co., Chicago. As the panels are fed they are held firmly in place on each side. The machine can handle two 4-foot wide panels simultaneously.

ROBERT T. MILLER

He heads the newly formed hardboard department of the Simpson Logging Co., Seattle and Shelton, Wash., which will market the hardboard produced in the new plant of the Oregon Lumber Co., Doe, Oregon. This product will be marketed as Simpson-Allwood Hardboard. Miller will act as hardboard sales manager, handle industrial sales and coordinate all hardboard activities. He brings to Simpson twenty-five years of experience with Masonite Corp.

Another Veneer Plant

Willox Veneer Manufacturing Co., Brookings, Ore., has filed articles of incorporation at Salem. Capitalization of this firm, which plans manufacturing veneer and plywood, was listed at $300,000. Signing the articles: Harold T. Livengood, Dave J. Boland, Morris J. Scholten, G. F. Wallace and C. Krieger. The company indicated the firm will be a cooperative.

Southern Plywood Production in 1951

Production of commercial southern hardwood plywood for 1951 is estimated at six hundred million feet on quarter inch basis. This does not include plants owned by and producing exclusively for the furniture industry.

Redwood Plywood

(Continued from Page 130)

dryers at four different levels. Temperature maintained in the dryers is between 320 and 340 degrees and the drying time varies with the thickness of veneers, the average time being seven or eight minutes.

Sheets leaving the dryer are again graded as they travel along a 75 foot stretch of conveyor and are marked with their grade by a dozen men working under fluorescent light. Placed on trucks the sheets move to near-by glue spreaders of which there are two. The sheets go into the American loader from which they are fed automatically into the Williams-White or the Baldwin hot press. Under 150 pounds pressure per square inch and a temperature of 225 degrees Fahrenheit the panels are bonded together and then brought out for final trimming, sanding and grading.

Fluorescent lighting is again used at the sanding machines to facilitate careful inspection. One man feeds the electrically driven sanders while the man taking them away grades and labels them with the Malarkey stamp according to grade.

The operation is a major addition to the capacity of the West's softwood plywood industry and increases M and M's capacity approximately 30 percent. On a ⅜ inch basis it has a rated annual capacity of 54.6 million square feet. The company is one of the country's top producers of softwood plywood.

Production of Malarkey plywoods, stock doors, wood pipe and tanks is undertaken in nine major plants composed of 15 operating divisions. These are located in southwestern Washington, Oregon and northern California.

The company is also the nation's largest stock door producer, turning out 6000 stock fir doors and 1000 flush doors in a normal day.

OTHER PETERS PRODUCTS
•
FEEDS
EDGERS
TRIMMERS
DOGS AND FLIPPERS
COMPLETE SAWMILLS
HYDRAULIC EQUIPMENT

PETERS CARRIAGE with Circle Bar combination log and board dogs and flippers

Greater profits to its owners is the promise in this fast, rugged, versatile Peters carriage.

Extreme precision is assured by Peters All-Steel construction and Peters automatic set works (option of setter or remote control).

DOGS are independently powered, dogging from both top and bottom. Circle bar dogs set out for dogging logs and retract to dog cants and boards.

FLIPPERS (optional) act with phenomenal speed to assist in turning logs without gouging or marring. Result: more lumber per log.

TAPERS: Because the whole knee is set out, dogs remain in same relationship to face of knee at all positions. Tapers are optional.

ONE MAN OPERATION or operation by remote control.

IT'S JUST GOOD BUSINESS TO USE A PETERS CARRIAGE

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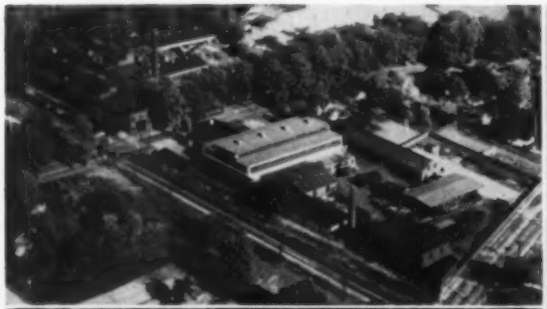
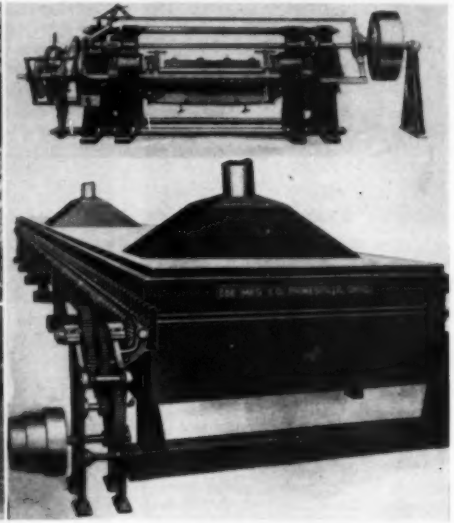
Latest News and Developments in the Machinery and Equipment Field





Upper left: The present Coe Manufacturing Co. plant with modern facilities for working 250 men. Lower left: The entire personnel in front of an early plant. Fifth from the left, Mr. FRED WILKES; sixth from left, Mr. H. H. COE. Upper right: The first Coe-Wilkes rotary lathe. Lower right: The first Coe veneer dryer.

Coe Manufacturing Co.'s 100th Anniversary

The Coe Manufacturing Co., Painesville, Ohio, is celebrating its 100th anniversary.

The company was formed in 1852 by H. J. Coe and Leonard Anderson to build steam engines and sawmill machinery. Following Mr. Coe's return from Civil war service Fred Wilkes bought the Leonard interest. About 1870 the Coe-Wilkes Co., as the firm was then known was asked to develop machines for fabricating thin veneers. A rotary lathe and a veneer clipper were produced.

In 1891 Mr. Coe purchased the interest of Mr. Wilkes and with his son, H. P. Coe, formed the Coe Manufacturing Co. In 1901 a new site was obtained upon which the company's third factory was erected.

The Coe roller dryer was developed in 1902. During World War I, while the company was engaged in war work, F. W. Milbourn, an engineer and then general manager of a kindred industry in Tennessee, visited the Coe plant and became interested in its possibilities. In 1919 he purchased the business and its liabilities which at that time were many. He since has been president.

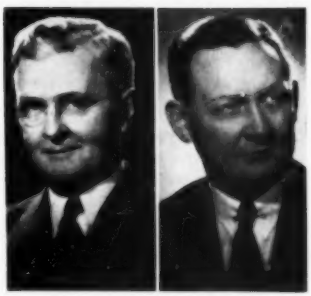
Realizing that experienced engineering personnel was of first importance in revitalizing the company, Mr. Milbourn began a search for such assistants. A. J. Vance came from the B. F. Sturtevant Co. to head engineering and development of the roller veneer dryer. To contact the field—South, North, East and West—and render the maximum of service, sales engineers were employed in the persons of F. S. Krag, H. Masters, J. S. Rice, W. R. Teachout and later A. M. Conway.

The new organization began to function with exceptional harmony and cooperation. The redesigned and improved machines found ready acceptance and now are in operation wherever veneer is fabricated throughout this continent and in many foreign lands.

In a recent interview Mr. F. W. Milbourn, Jr., vice president and general manager, said, "We are deeply grateful to the many customers whose loyal support has made our success possible. And in making these due acknowledgments we pledge our continued efforts to improve our machines and raise still higher the standard of service to our customers; for should we fail to supply them with the best possible tools with which to work, we would no longer justify our existence."

Burners and Conveyor Installations

C & D Welding Works, Redding, Calif., has been busy building burners and conveyors, and other sawmill construction during the past few months, according to M. R. Clare, manager.



F. W. MILBOURN F. W. MILBOURN, Jr.

The company just finished construction of a trash burner, conveyor, and fuel storage area for the Ukiah Pine Lumber Co., Potter Valley, Calif. This mill burned last year but is reported to be completely rebuilt now.

C & D has also built a 100' burner and burner conveyor for Castle Sawmills, Inc., Crescent City. Associated Lumber & Box Co., Moore Mill & Timber Co., have both purchased 70' burners, and Masonite Corp., Ukiah, has installed a 75' burner.

Alley Lumber Co., Arcata, has put in a 65' burner.

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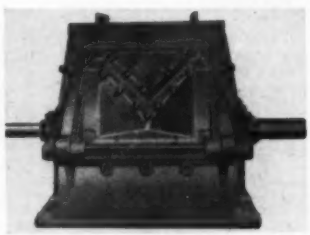

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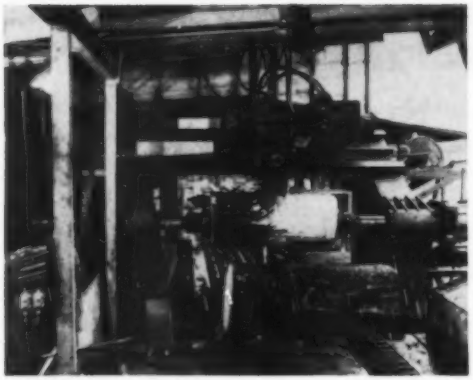

Nicholson Barker 52-Eleven in production at Everett Pulp and Paper Co., Everett, Wash.

Nicholson Log Barker

Increased production of the Nicholson 52 Eleven log barker was announced recently by T. W. (Bill) Nicholson, head of the firm. "It's built for plywood, pulp and short log sawmills", says Nicholson, "and we believe it really puts barking into a production line."

Output on the machine can be stepped up to 600 blocks or log pieces per shift and can be installed in most mills without disruption of present log handling system. Features include one man operation and overhead structure for straight line flow.

Log routing is from the log haul direct through the barker via automatic cradle loading system, then to conveyor to next operation viz. sawing, chipper or back to pond.

Among the mills where now installed include Simpson Logging Company, Everett Pulp and Paper Company and Sooke Lake Lumber Company in British Columbia.

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WITH GREENLEE TOOLS

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GROOVING TOOLS FOR TIMBER CONSTRUCTION

DAVID LARKIN A. A. GROSSE

Broderick & Bascom Executive Changes

David Larkin, former executive vice-president of the Broderick & Bascom Rope Co., of St. Louis and Seattle, has been elected to the board of directors. At the meeting of the new board A. A. Grosse, who has been assistant treasurer, was elected to the additional office of secretary, a position formerly held by Joseph H. Bascom, now executive vice-president and treasurer. Mr. Grosse's connection with the organization dates back to November, 1925.

Plywood Plant Adds Equipment

The Cottage Grove Plywood Co., Culp Creek, Oregon, recently made a number of improvements in their plant, by adding a 66" Sumner chipper and a Victor clipper. They use an over-size twin steam engine to drive their Coe lathe. This gives them ample power to accomplish smooth and rapid operation. Loren L. Stewart is general manager.

An affiliate company, Bohemia Lumber Co., has added a new modern planing mill and two new Moore dry kilns.

More Pond Boats

Henry Stocker, prominent logger of Newport, Oregon, recently took delivery of a 16 ft. all steel Ilwaco boom pond boat with an operator's covered cab on the top. It was sold thru the Fred E. Barnett Co. of Portland, distributors for Ilwaco Boat Works. The Snoqualmie Falls Lumber Co., Snoqualmie Falls, Wash., recently took delivery of their second Ilwaco boom pond boat.

Oregon Woodwork, Ltd., Portland, Ore., is opening a woodworking plant at Bend. This, the city's newest industry, is located in the buildings formerly occupied by the Sevlin-Hixon Co., which in late 1950 was purchased by Brooks-Scanlon, Inc.

Seated around the banquet table L to R: C. C. Kirk, branch manager, Seattle; D. L. Elliott, service manager, Portland; Joe DeVier, engine salesman, Los Angeles; Leonard Peerbolte, service manager, Los Angeles; Ray Gieszl, branch manager, Portland; Leo Heimlich, Southwest service representative; Bob Wilson, service manager, Seattle; Jack Reilly, general service manager, King-Knight, San Francisco; Del Smith, service manager, Simpson-Maxwell, Ltd., Vancouver, B.C.; Lee Cultice, district representative; D. L. Kagy, service manager, The Buda Co.; C. H. Riding, sales manager, King-Knight Co., San Francisco; Alvin Anderson, branch manager, Los Angeles; Phil Howe, Pacific Northwest service representative; E. H. York, West Coast regional representative; J. C. Baseheart, general service manager, The Buda Co.; R. K. Mangan, president, The Buda Co.; E. R. Galvin, assistant to the president, The Buda Co.; John Markovich, general manager, Utility Trailer Sales Co., Fresno; Lymon S. King, president, King-Knight Co., San Francisco; W. S. Haynes, engine sales department, King-Knight Co., San Francisco; Clyde Sailors, service manager, Buda, Bakersfield; Harlen McKay, sales manager, Buda-Portland; W. J. Lister, district service representative, The Buda Co.; Pete Glade, service manager, King-Knight Co., San Francisco; John Brynelson, sales manager, Simpson-Maxwell, Ltd., Vancouver, B.C.; Paul Kreis, service manager, Arizona Equipment Sales, Phoenix, Ariz.; Pete Boradori, engine salesman, Utility Trailer Sales Co., Fresno.

Present at the meeting but not in the picture were Joe Angle, president, Arizona Equipment Sales, Phoenix, Ariz.; and Harry Schiedt, service manager, Utility Trailer Sales Co., Fresno.

Rear row, standing, L to R: E. H. YORK, West Coast regional manager; ALVIN ANDERSON, Buda branch manager, Los Angeles. Front row, seated, L to R: J. C. BASEHEART, general service manager, R. K. MANGAN, president; and E. R. GALVIN, assistant to the president.

Buda Conference

From British Columbia to Phoenix, Ariz., representatives of Buda distributors, and Buda branch managers in the West assembled in San Francisco last month for the semi-annual sales and service meeting.

Presiding over the three day meeting, which was climaxed with a banquet, was R. K. Mangan, president of the Buda Co., manufacturers of Buda industrial and marine diesel engines. Also attending the meeting from Harvey, Ill., the home office of the Buda Co., were E. R. Galvin, assistant to the president, and J. C. Baseheart, general service manager, The Buda Co.

Intensive sessions were devoted to talks on the new models of Buda diesel engines, and new service methods. The Buda Co. holds these semi-annual sales and service meetings on the West Coast with its representatives to keep them informed of the latest developments in sales, engineering, and service.

Timken-Detroit's New Plant

Completed months ahead of schedule because of its great importance to the defense effort, The Timken-Detroit Axle Company's new Ohio Axle & Gear Division has started production of axles and transfer cases for military trucks. The new plant, located at Newark, Ohio, is an important link in Timken-Detroit's widespread chain of decentralized manufacturing facilities.

Occupying nearly 400,000 square feet of floor space in a modern, single-story building of saw-tooth construction, the factory will constitute a completely integrated manufacturing unit for machining, heat treating and assembly operations with a well equipped metallurgical laboratory.

When the Ohio Axle & Gear Division reaches full production, it will be a carefully planned component of the entire Timken-Detroit manufacturing program. The company has nine production plants in strategically located centers, such as Oshkosh, Wisconsin; Detroit and Jackson, Michigan; Utica, New York; New Castle, Pennsylvania; Kenton and Ashtabula, Ohio and now Newark, Ohio.

Timken-Detroit Axle Co.'s new Ohio Axle & Gear Division's plant at Newark, Ohio.

Will Orth Dies

Will Orth, 62, vice president of the Jones & Orth Cutter Head Co., Seattle and Memphis, died in Seattle January 24 after a brief illness. He was a native of Los Angeles, but had made his home in Seattle for the past forty-one years.

He was co-founder of Jones & Orth Cutter Head Company in 1923 and had been vice president since that time. Previous to the establishment of the company Mr. Orth and Winslow Jones had been employed by a Seattle manufacturer of woodworking machinery since 1910.

Mr. Orth had been in close contact with knife and cutter head developments during the past forty-one years. Many changes and great progress have occurred during this period dating from the slow-feed square heads to the present high rate of feeds up to 1000 ft. per minute.

In 1942 Mr. Orth was instrumental in establishing a branch in Memphis, Tennessee, and was in charge of this branch.

He is survived by his wife, Josephine, and two sons, Lew and Billie. Lew Orth has been with the company for fifteen years and is vice president at this time.

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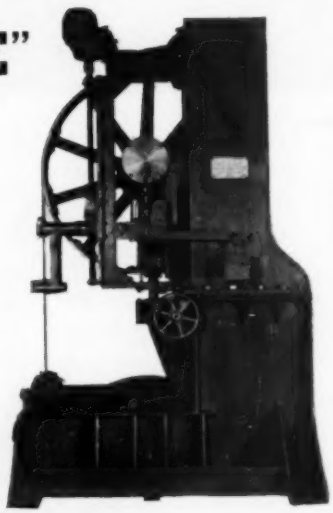

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54 to 72 Inch

Rees Burners at Southern Mills

Disposal of unwanted sawmill refuse is increasingly attracting the attention of manufacturing companies and with this there has been evidenced a determination to handle the problem in a definite way, according to C. H. Cowan, president, Memphis Machinery & Supply Co., Memphis, Tenn. Mr. Cowan reports that in recent months the following companies have installed Rees Blow Pipe Mfg. Co. (San Francisco) burners for which his company serves as distributor in the southern states: S. R. Hungerford Co., Memphis, Tenn.; Whitener Lumber Co., Newberry, S.C.; The Pilliod Lumber Products Co., Flora, Miss.; J. R. Buckwalter Lumber Co.; Union, Miss.; Roy Sturgis Flooring Co., Malvern, Ark.; M. F. Elliott Lumber Co., Thomaston, Ga.; McNeill, Lauff & McNeill, Thomaston, Ga.; Gilmore-Puckett Lumber Co., Amory, Miss.; Veach-May-Wilson, Inc., Alcoa, Tenn.; Howard Lumber Co., Augusta, Ga.; Chickamauga Cedar Co., Stevenson, Ala.; L. L. Morrow, Mena, Ark.; Dale Rodgers, Mena, Ark.; J. H. Graves, Greenville, S.C.; Long-Bell Lumber Co., Sheridan, Ark.; Sonoco Products Co., Hartsville, S.C.; Spartanburg Lumber & Millwork Co., Spartanburg, S.C.; A. J. King, Sevierville, Tenn.

Virginia Caterpillar Dealers

Virginia Tractor Co. Inc., Richmond, Va., with branch operations in Norfolk and Waynesboro has been named Caterpillar distributor to serve the eastern half of the state of Virginia. Robert H. Carter, Jr. is president of the organization. Carter Machinery Company, Inc., Roanoke, Va., will serve as distributor for the western half of the state. Beirne B. Carter heads this company.

To get out logs cut on the Gallatin National Forest show of the Corocoran Pulpwood Co., Bozeman, Mont., roads have to be cut out and built, and then maintained for the trucks. The Diesel-powered Allis-Chalmers HD-15 crawler tractor with Baker dozer is called on to do this, pushing loose rock and dirt ahead of it and then dropping the load over the cliff above the West Gallatin River. When not doing this, the outfit is called on to work in the woods, yarding logs to the truck landings and speeding other jobs.

Plant Improvement Program

The Enterprise Company, machinery builders and engineers, Columbiana, Ohio, has recently completed a plant improvement program. New machine tools, cranes and other plant machinery have been installed, and a new modern office building, as shown in the photograph, has been erected. With the entirely revised and modernized plant layout the company has increased its machinery building and fabricating capacity so as to better serve its widening number of customers. In addition, a new and enlarged engineering department has been organized, which specializes in the design of special machinery and handling equipment for both steel and lumber mills.

The Enterprise Company has been building sawmill machinery for 75 years. It is a wholly-owned subsidiary of the Wm. K. Stamets Company, Pittsburgh, Pa., having been purchased by the latter in 1950.

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SEND FOR FREE FOLDER on the BERGER SWING BOOM LOADER—the "rig" the logging industry demanded.

Inquire about COLOR MOVIES of BERGER-Rees Air Tongs.

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Architect's sketch of new Borden, Chemical Division, plant at Long Beach, Calif.

H. H. CLARKE, Jr., Seattle, vice-president in charge of West Coast Operations of Borden's Chemical Division.

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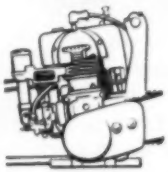

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Borden's New Western Chemical Plant

The new Borden operation, now nearing completion at Long Beach, Calif., will bring to the West Coast the first production of resorcinol and will tend to alleviate the present serious shortage of this critical material, according to H. H. Clarke, Jr., Vice President in charge of West Coast operations of Borden's Chemical Division, Seattle, Wash.

Resorcinol is used to produce low-temperature setting waterproof adhesives required during the present emergency for the construction of Navy minesweepers, arctic shelters and laminated arches and trusses. Because of its extreme durability, resorcinol resin is required for patching exterior Douglas fir plywood and is finding increasing uses in the lumber industry.

In addition to resorcinol and resorcinol resins, this new plant will produce urea and phenol-formaldehyde glues for the Southern California wood-working industry, as well as phenolic molding compounds for the plastics industry.

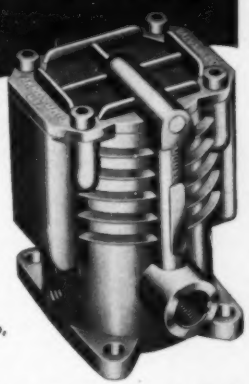
Other Borden Chemical Division plants on the West Coast are located at Springfield, Oregon, and Seattle, Washington, providing adhesives and binders for the Northwest hardboard and plywood industries.

New Wheland Installations

Despite slowness in the southern lumber market during the last half of 1951, there were a number of manufacturing companies that went ahead with planned improvements. Among those installing new Wheland Company band mills and/or other equipment, according to R. E. Shafer, general sales manager, were the following: Olon Belcher Lumber Co., Brent, Ala.; Ozmer Lumber Co., Savannah, Ga.; Nugent-Moffett Lumber Co., Natchez, Miss.; Bailey Lumber Co., Laurel, Miss.; Sledge Lumber Co., Whiteville, N. C.; Fisher Bros. Lumber Co., Tuscaloosa, Ala.; Long-Bell Lumber Co., Sheridan, Ark.; Riverside Mfg. Co., Murfreesboro, N. C.; Williams Lumber Co., Wilson, N. C.; Ashepoo River Lumber Co., Ashepoo, S. C.; C. Arnold & Son, Cullman, Ala.; Williams & Voris Lumber Mfg. Co., Dothan, Ala.; Whiting Brothers, Fredonia, Ariz.; Cathery-Ward Lumber Co., Macon, Ga.; McGraw Curran Lumber Co., Yazoo City, Miss.; and R. A. Vinton Lumber Co., Greenwood, Miss.

D. J. Carroll Copps has been appointed general manager of Atlas Powder Company's explosives department. He has been assistant general manager of the explosives department since January 1951.

The *New* VALVAIR SOLENOID PILOT VALVE



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SIZE: ¼" pipe tap, orifice ⅛" or 3/16".

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Galbraith & Salley, Ltd., Vancouver, B. C.
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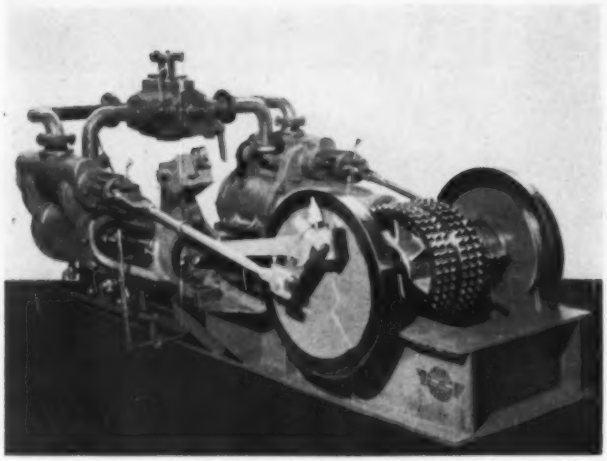


Washington Iron Works high speed veneer lathe engine.

Install Columbia Presses

Columbia Machinery and Engineering Corporation, Hamilton, Ohio, builders of heavy hardboard and plywood presses, recently installed this hardboard hot press at Versatile Products Co., Anacortes, Wash. It is a 10-opening, 4' x 8' unit; 300 lbs. psi, with side loading facilities.

Columbia also builds a special floor type hot plate plywood and door press up to five openings. This press is shipped assembled and sits on the floor, thus eliminating the necessity of a pit or special foundation.

Columbia presses are represented on the Pacific Coast by The Tallman Machinery Co., Seattle. Recent Columbia installations include: Long-Bell Lumber Co. plywood plant at Gardiner, Ore., where two presses are working; Versatile Products, Inc., Anacortes, Wash., where a Columbia press is used in the manufacture of hardboard; Columbia Veneer Co., Kalama, Wash.; U. S. Plywood Corp. plant at Mapleton, Ore.; Mt. Baker Plywood Co., Bellingham, Wash. (two presses); Woodlawn Plywood Co., Hoquiam, Wash.; J. R. Murray, Ltd., Vancouver, B.C.; and MacMillan and Bloedel, Ltd., Port Alberni, B.C.

According to The Tallman Machinery Co. the following plywood firms have Columbia presses on order: B.C. Forest Products, Ltd., Vancouver, B.C.; Brookings Plywood Corp., Brooking, Ore.; Linnton Plywood Co., Linnton, Ore.; Mutual Plywood Corp., Eureka, Calif.; Southern Oregon Plywood, Inc., Grants Pass, Ore.; Coquille Plywood, Inc., Coquille, Ore.; and Snellstrom Lumber Co., Eugene, Ore.

A-C Tractor With Carco Winch and Dozer

West Side Lumber Co., Tuolumne, Calif., recently took delivery of an Allis-Chalmers HD20 tractor, equipped with Carco winch and Carco 'dozer from the Moore Equipment Co., Stockton, Calif.

Washington Veneer Lathe Engines

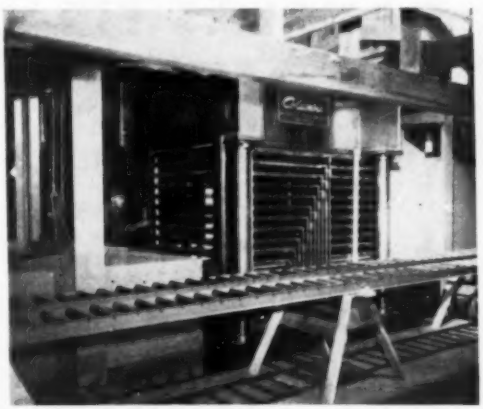
A number of steam-driven, high-speed veneer lathe engines have been completed recently by Washington Iron Works, Seattle, for installation in Pacific northwest mills.

While characterized by rigid construction and simplicity of operation, the design represents improvements in several important respects. Base is all-welded steel; piston valve cylinders are balanced with outside valve motion; heavy steel counter-balanced crank discs permit high-speed operation; and lubrication of crank shaft bearings is by pressure feed. Instantaneous reverse and steam economy are obtained through an improved balance piston valve throttle, eliminating the old style Johnson bar link motion.

Built in sizes developing up to 750-hp, the Washington improved veneer lathe engine is said to have increased output as much as 25 percent. Units now in service include one at Anacortes Veneer, Anacortes, Wash; one at Coos Bay Lumber Co., Coos Bay, Ore.; and two at Roseburg Lumber Co., Roseburg, Ore.

Chain Belt in New Portland Home

Chain Belt Co. Portland office and warehouse has been moved to new modern headquarters at 2314 N.W. 24th ave., corner of York st. Much larger facilities are provided, with trackage and docks, for better service to the trade. Hy Bergis is manager in charge of Oregon operations.



Columbia Hardboard hot press recently installed in plant of Versatile Products Co., Anacortes, Wash.

SEABOARD LUMBER SALES COMPANY LIMITED

SEABOARD HOUSE • VANCOUVER, CANADA

Signode offers better ways

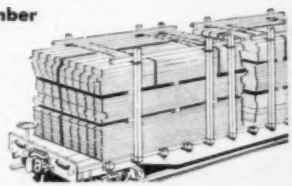
to protect shipments of lumber and millwork

Bundling your logs

- triples the capacity of your log pond
- lets you raft dense logs without sinking
- cuts cost of handling small timber

Bundling your lumber

- conforms to railroad loading requirements
- cuts loading and unloading time with mechanical handling
- keeps lumber straight and true



Power strapping your millwork or flooring

- speeds handling of small units
- provides tighter and more uniform bundles
- reduces pilferage and damage

Our methods save money

If you are plagued by complaints and costly, profit-eating adjustments with customers, our trained personnel can help you. Regardless of what you ship, or how you ship it, talk now with a Signode field man or write

SIGNODE
STEEL STRAPPING COMPANY

2616 North Western Avenue • Chicago 47, Illinois

Offices coast to coast. In Canada: Canadian Steel Strapping Co., Ltd. Foreign subsidiaries and distributors world-wide.

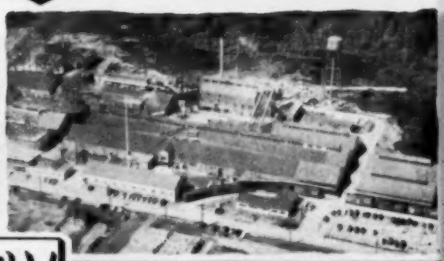
this seal SIGNODE *means security in shipping*

Diversified FOREST PRODUCTS

LUMBER

EBURNE SAWMILLS DIVISION
9149 Hudson Street, Vancouver, B.C.

PLYWOOD



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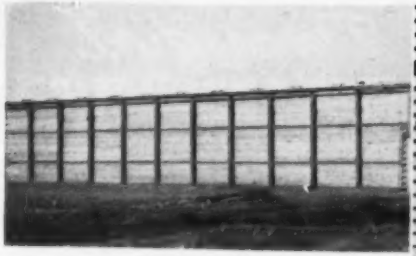
Foot of Braid Street, New Westminster, B.C.

SHINGLES

HUNTTING-MERRITT SHINGLE DIVISION
9110 Milton Street, Vancouver, B.C.

CANADIAN FOREST PRODUCTS Limited



Bowers Lumber Dryers' Moore Cross-Circulation Kilns, Redding, California. Right: Owners Mr. and Mrs. J. I. Bowers.

For Truck Operators . . . IT'S HERE!

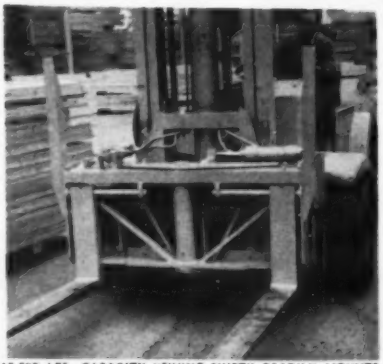
The SWING-SHIFT

(PATS. PENDING)

Hydraulic Load Control Attachment For Heavy Fork Trucks Developed By Lumber Operators Especially For The Lumber Industry

Gives You:

- **50% MORE LOADS handled per day piling for air drying, loading trucks, etc.**
- **50% MORE LIFE on tires and motor clutches.**
- **MAXIMUM PRODUCTION with INEXPERIENCED DRIVERS.**
- **PRECISION HYDRAULIC CONTROL in placing load EXACTLY where you WANT IT . . . QUICKLY.**



15,000 LBS. CAPACITY "SWING-SHIFT" READILY MOUNTS ON STANDARD HYSTER RT 150 LIFT TRUCK

"SWING-SHIFT" *Equipped*

ANY HEAVY LIFT TRUCK HAS A NEW LEASE ON LIFE, EFFICIENCY AND INCREASED PERFORMANCE. It eliminates most starting and stopping, jockeying for position and all NON-PRODUCTIVE MANEUVERING.

LUMBER OPERATORS: Now ANY driver on one approach can pile stickered lumber for kiln or air drying EXACTLY in FACE alignment and END alignment, because:

- ★ "SWING-SHIFT" fork base PIVOTS horizontally 20° of arc (full travel).
- ★ "SWING-SHIFT" fork base SHIFTS SIDE-WAYS 12" (full travel).
- ★ Driver controls PIVOT and SIDE-SHIFT with convenient dash controls.

Write Manufacturer for further data and indicate make and size trucks you now operate.

SWING-SHIFT MFG. CO.
P. O. Box 957
LONGVIEW, WASHINGTON

WRITE DIRECT
or see your nearest
HYSTER DEALER

Custom Lumber Drying

Mr. and Mrs. James I. Bowers have just completed the installation of two new Moore Cross-Circulation lumber dry kilns and are operating under the name of Bowers Lumber Dryers at Redding, California.

The two single track kilns 88' long are housed in a wood-layered building and are of the double-end track type, which allows the green loads to be built up ahead on kiln trucks, then moved into the kiln for drying, and then removed out of the kiln under a dry shed.

The kiln has a high circulation rate produced by fans on a single line shaft, each equipped with a Moore Master Recorder Controller which maintains the desired dry and wet bulb settings and further controls the steam spray and roof ventilators.

Heat for the kiln is produced by 10 to 15 pounds per square inch steam produced from an oil-fired Birchfield boiler, with complete automatic controls.

The Bowers are doing custom drying for the Cal-Ore Sales Company at their new planing mill site just south of Redding.

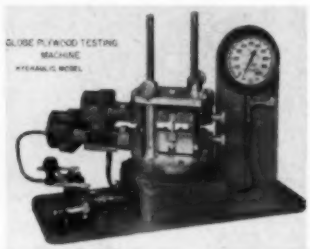
Mr. and Mrs. Bowers are well-known in the lumber drying field and have been extended best wishes by many of their friends in their new venture.

Install Log Gangs

Dixon Lumber Company, Andalusia, Ala., has purchased a round log gang saw for installation early in 1952, according to Branyan & Peterson, Inc., Memphis, southern distributors. Claude Branyan also reports that Cogle Lumber Co., Thomasville, Ga., has recently ordered a gang saw. Other recent sales in the southern territory include Fuller Lumber Co., Lewisville, Ark., Nebo Lumber Co., Dardanelle, Ark., and Wade Lumber Co., Folkston, Ga.

Takes Coe Dryer

Installation of a new 12-section Coe Manufacturing Co. dryer was effected in recent months by the Hobac Veneer and Lumber Co., Caruthersville, Missouri.



Illustrated above is the new Globe hydraulic plywood testing machine, manufactured and distributed by the Globe Machine Manufacturing Co., Tacoma, Wash. The purpose of the machine is to test the "shear strength" of the glue bond of plywood. By making periodic tests of the strength of the glue line plywood mills are able to maintain a quality product for their customers. According to Calvin Bamford, head of the Globe organization, users of the Globe testing machine now include: U. S. Plywood Co., Seattle plant; Weyerhaeuser Timber Co., plywood division at Longview; B. C. Forest Products, Vancouver, B. C.; and the Douglas Fir Plywood Association laboratories.

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MACHINERY CORPORATION

Is Pleased to Announce their Appointment
As Distributors for the Well Known
Fort Worth Steel & Machinery Co.

Lines of Transmission and Materials-Handling Equipment, Including
Sprockets, V-Belt Drives, Screw Conveyors, Etc.

This Provides Complete Lines of Transmission Products as follows:

- **Falk Gearmotors, Flexible Couplings and Speed Reducers**
- **Ledeen Air or Hydraulic Cylinders and Valves**
- **Lewellen Variable-Speed Transmissions**
- **Western Plywood Equipment—Tray Systems, Elevators, Conveyors**
- **Western Utility Hoists**
- **Western Wood Chippers and Hogs**
- **Paper Mill Machinery and Stock Valves**
- **Repair Parts for Hesse-Ersted Iron Works and Western Machinery Corp.-Built Equipment**

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Phone EMpire 4117

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BAND RESAWS and RIP SAWS

PRECISION BUILT
•
MASSIVE CONSTRUCTION
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FAST FEED
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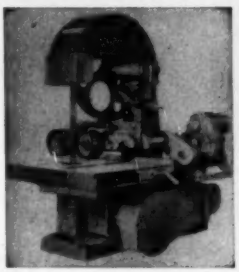
CLOSE COUPLED
•
BEVEL CENTER SAWING OR SLAB SAWING RESAWS



Turner SBR 42" Band Rip Saw

42", 48", 52", and 62"; Tilting Vertical Singles, Standard and Beveler Tandem Twins, Horizontals.

Prompt Delivery

INTERNATIONAL SALES & SERVICE

TURNER MACHINERY COMPANY
Division of United Engineering Company
500 Beale St., San Francisco 5, California

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CHAMPION
FRICTIONS

Guaranteed frictions engineered and fabricated to each particular use . . . . . .

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EUGENE, OREGON
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ESTABLISHED 1883

Wood-Mosaic Co.
Incorporated

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VENEERS
African Mahogany—Philippine Mahogany
Canadian Birch—Canadian Maple—Oak
Walnut—Poplar—Basswood

HARDWOOD LUMBER
Birch—Oak—Walnut—Maple—Mahogany

FLOORING
Oak—Maple—Birch

IMPORTERS

LUMBER AND PLYWOOD
Teak—Japanese Oak—Japanese Birch

Main Office and Factories
5000 CRITTENDEN DRIVE LOUISVILLE 9, KY.

BRANCH PLANTS
Huntington, W. Va. Jackson, Tenn.
Woodstock, Ont., Canada

Caterpillar rubber tired DW10 tractor equipped with Hyster winch and an Esco pan. Pan is 10 feet wide, three inches thick and weighs 3000 pounds. Ten percent more footage is hauled with this pan than with the old pans. A large tire filled with concrete has been hung on the radiator of the DW10 to give balance for the return trip up grades that reach about 35%.

Good Results With Rubber Tired Tractor and Pan

Dramatic, high speed, economical log moving was the order of the day at the Gisle & Robstad 160-acre timber stand, ten miles east of Cave Junction, Oregon, on Highway 46, after the firm put a Caterpillar Diesel-powered rubber-tired tractor work in terrain where the grades run 20 to 33%.

In the early spring of 1950, Gisle and Robstad, contract loggers for Puget Timber Co. of Kerby and Eugene, Oregon, were asked to log a 160-acre tract of timber consisting of 6,000,000 feet of fir and pine.

After a thorough survey of the mountainous hillsides, it was decided a truck road to the timber would cost far too much as there was a 2,000 foot elevation between the highway and the stand of timber. The estimated cost of a truck road to this timber was $35,000, plus a three-dollar additional cost of trucking the logs to the mill 12 miles distant.

As crawler-type tractors would be far too slow and costly to traverse the one and one-half miles distance between truck landing and timber, a faster and more efficient means of bringing the logs down the grade had to be found.

Having rubber-tired equipment in mind, the loggers took their yarding problem to the Crater Lake Machinery Co., Medford, Oregon, the local Cater-

pillar dealer, for assistance. The outcome was a DW10 tractor equipped with a Hyster winch and an Esco skidpan. A bumper was constructed on the Esco pan to keep the logs from running into the DW10 as they sped down the steep grade.

In loading, the DW10 lowers the skidpan to the ground; the winching cable hooks to the chokers and pulls the logs on to the pan so the chokers do not rub on the ground. A load of 4,000 to 5,000 feet is taken to a turn. When the machine returns for another load, the skid pan is winched up off the ground.

Two D7 tractors, equipped with No. 7s bulldozers, were used to gouge out a pioneer road one and one-half miles long with a grade ranging from 20% to 33%. The rubber-tired tractor moves up the steep one and one-half miles in second gear. Coming down, in third or fourth gears, it makes the trip in 14 or 15 minutes. A round trip is made in approximately 35 minutes. Daily production at the stand has an approximate average of 70,000 board feet. The logs are moved down the mountain at a cost figure of $2.50 per M board feet.

Power Line Brings Change to Mill

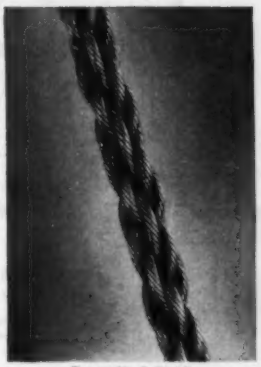
The construction of a power line to Diamond Lbr. Co.'s mill at Lee's Camp, Oregon permits many changes to improve this operation. This mill which was constructed in 1948 has been powered by Diesel engines—two D-17000 Caterpillar Diesels supplied power for the band headrig. One other such Diesel powered their edger. In addition to these a battery of seven Diesel units furnished electric power for the balance of the mill and furnished compressed air for the air shot-gun, log deck and feed engine driving feed rolls on the edger.

Construction of the power line permits them to now convert to electric power throughout. They are installing a 250 HP G.E. Amplidyne feed works in place of the air shot-gun. They are installing electric motors on their bandmill and edger and are installing a new Peters' carriage, which has an 84" opening, with screw type headblock and is of all steel construction. The three wheel truck units have heavy Timken tapered roller bearings. Each knee is equipped with a Peters' powered board dog and in addition the setter knee is equipped with two hammer dogs. A Peters' hydraulic precision setworks insures accurate setting and speedy operation. This carriage is also equipped with hydraulic flippers. Two flipper assemblies are included each with its own direct connected hydraulic cylinder. Nitrogen loaded accumulators give these flippers very fast action and are very powerful due to the hydraulic power used.

Frick Broadens New England Lines

Frick Company, Waynesboro, Penna., has been appointed distributor for all equipment in the Minneapolis-Moline Line in northern New England, including the states of Maine, New Hampshire and Vermont. The equipment offered in northern New England through Frick Company will henceforth include Frick sawmills, Minneapolis-Moline and Avery tractors, power units, Lombard chain saws, and various other implement lines.

Knot It! Kink It! ...IT WON'T HURT A Tuffy® SLING!



Patent No. 2,454,417

Get your FREE Tuffy 3-ft. sample sling and see for yourself how Tuffy's patented braided wire fabric makes an extra flexible sling. Tie it in knots, kink it, then see how easily it is straightened without damaging it in any way.

The reason is Tuffy's unique construction. (See enlarged photograph). Scores of wires are stranded into 9 parts, then machine woven into a wire fabric that has unusual flexibility and strength. Even cutting one of the 9 parts will not cause stranding.

11 Types of Tuffy Slings Available

There's a Tuffy Sling for *your* needs. If not, Union Wire Rope engineers will help work out special slings. Each one is proof-tested to twice its safe working load and the safe working load is stamped on metal tag attached to each sling. If you have your own rigging loft, Tuffy fabric is available by the reel.

MAIL COUPON FOR YOUR FREE SLING

See for yourself that all the things we claim for Tuffy Slings are true. A free 3-foot sample is yours for the asking. Just mail the coupon and your Union fieldman will deliver yours to you.

UNION WIRE ROPE CORPORATION
Specialists in Wire Rope, Braided Wire Fabric and High Carbon Wire
2164 Manchester Ave. Kansas City, Mo.

Gentlemen: Please have my Union Wire Rope Fieldman deliver my free Tuffy sling sample.

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THE EFFICIENT WAY

Ship to Shore

TELEPHONES aboard Chamberlin vessels put your cargo within arms reach. Quick, reliable information regarding your shipments assure you accurate scheduling without delay.

W. R. CHAMBERLIN & CO.

230 California Street
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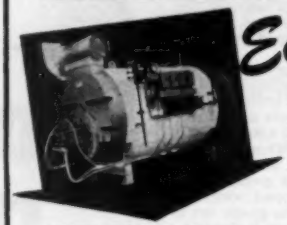
GABRIEL BOILERS



FOR *Economy*

- IN USE
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A.S.M.E. Code Constructed
National Board Registered
Modern Welded, X-Rayed and
Stress Relieved Construction

STEEL BOILER INSTITUTE CAPACITY RATED
(Your Assurance of Reserve Power)

BOILER SIZES MANUFACTURED:
3 to 300 horsepower — 15 to 200 lbs. working pressure. Oil, coal stoker, gas, sawdust and hog fuel firing with induced or natural draft.

TYPES OF BOILERS MANUFACTURED:
Scotch Marine • Two-pass Firebox • Gas-fired Vertical • Horisontal Return Tube • Vertical Tubeless • Vertical Tube • Pressure Storage Tanks • Water Heating Equipment

FACTORY ASSEMBLED PACKAGE UNITS
All boilers are steam generators with basic capacities predicated on heating surface.

Write for Information and Nearest Dealer

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BUILDERS OF FINE BOILERS

MacMILLAN & BLOEDEL LIMITED

Vancouver, British Columbia, Canada

Shippers and Carriers of Lumber and Plywood from Washington, Oregon and British Columbia to all parts of the world.

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BRITISH COLUMBIA FOREST PRODUCTS, LTD.
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SPECIAL INSURANCE PROTECTION

FOR A SPECIALIZED INDUSTRY

EXPERIENCE during the past 44 years has given D. K. MacDonald & Co. a thorough knowledge of the lumber industry's insurance needs.

Through engineering analysis, we offer sound counsel about the type of coverage that will protect you against every insurable risk. We do not *sell* insurance—we *buy* it for you. Inquiries are always welcome.

WORLD CONNECTIONS

IN OUR 44TH YEAR

D.K.MacDONALD&CO
INSURANCE BROKERS

SEATTLE—Exchange Building—SEneca 7900
PORTLAND—Portland Trust Bldg.—BEacon 7395

John Hogg, seated at left, Northwest district sales manager, was "host" to a group of General Electric radio and communications officials at a recent meeting in Seattle. Others attending the conference included: (standing left to right) H. S. Brougham, communications specialist, Seattle; Lacey W. Goostree, Sales Manager of G.E. Communications equipment, Syracuse, New York; L. R. Sheeley, Western Regional Manager of communications equipment, San Francisco; and Myron J. Sargent, G.E. sales assistant in Spokane, where he heads up Western Engineering Co., G.E. communications equipment agency.

Gearmatic Transmissions

Northwest Motor Parts & Mfg., Seattle, representatives in the State of Washington for Gearmatic Co. Ltd., Vancouver, B. C. reports continued logger interest in Gearmatic transmissions. Recent orders are from Jackson Brothers, Moclips, for a Skagit yarder and W. S. Van de Grift, Concrete, for a Clyde.

Gearmatic transmissions are available in 2, 3, 5 and 7 speeds for power units of 60 to 1200 h.p. The manufacturers feature the transmission as an "Air Actuated Quick Change Transmission."

President GEORGE P. TORRENCE, Chicago, president, Link-Belt Co., at the opening of the new Vancouver building.

Link-Belt, Ltd. Opens New Plant

To meet the demands of the company's expanding business in British Columbia, Link-Belt Ltd., recently opened spacious new quarters at 2550 Boundary Road, Vancouver.

Several top executives of the company attended the "open house" event on the day of the formal opening, including George P. Torrence, president of the Link-Belt Co., Chicago; R. C. Becherer, executive vice-president, Chicago, and John Farley, president of Link-Belt Ltd., the company's Canadian division, Toronto. Herbert J. Harris is district manager at Vancouver.

The Link-Belt organization has played an important part in providing for the requirements of Western Canada's rapidly growing pulp and paper, lumber and other industries, and the new building provides ample accommodation for the expanded staff and mechanical facilities. The Vancouver engineering staff is being augmented in order to give even better service than has been possible in the past.

ANOTHER

MAXI-MOUNTED CRANE*

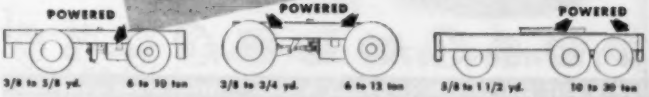
. . FOR THESE MAXIMUM ADVANTAGES:

- one-man control
- operation stability through 360°
- close quarter maneuverability
- fast travel—either direction

* Lima Crane, maxi-mounted for logging operation.

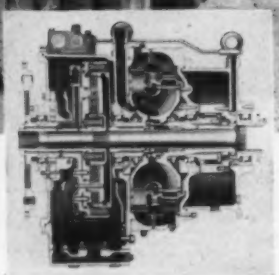
Write for additional information.

MAXI CRANE CARRIERS



ENGINEERED AND MANUFACTURED BY SIX WHEELS, INC. • LOS ANGELES 11, CAL.

Twin Disc...the Torque Converter that brakes, too!



A Twin Disc Model DF "direct drive" Hydraulic Torque Converter supplies braking in this Mack Truck, converted by Hammond Lumber Company. The Twin Disc Torque Converter, equipped with a Twin Disc Reverse Gear, drives through a 3-speed Auxiliary Transmission.

● At Hammond Lumber Company, on their Twin Disc Hydraulic Torque Converter equipped truck, brakes are used only for slight checking on curves and for emergency stops.

That's because this torque converter provides plenty of retarding action. The Twin Disc Converter, aided by engine compressions, performs up to 90% of the braking function.

Moreover, the Twin Disc Torque Converter is ideal for taking adverse grades, or for moving away with a heavy load. One driver says, for example:

"I can pull away from the loader with a full load in overdrive and negotiate average grades."

Cooling for the torque converter consists of a heavy-duty radiator mounted in front of the engine radiator and even under braking conditions helps to keep the engine temperature between 160° and 180°.

There's an entirely new story being written in truck logging with Twin Disc Model DF Hydraulic Torque Converters. Write for Bulletin No. 162.

TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin · HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND · DALLAS · DETROIT · LOS ANGELES · NEWARK · NEW ORLEANS · SEATTLE · TULSA

Machinery Personals

George C. Wilder has been elected vice president and assistant general manager of Macwhyte Company, Kenosha, Wis. He has served as assistant to the general manager since January, 1949, and from 1946 to 1949 served as southern Wisconsin traveling representative for the company.

C. B. Smythe has been elected president of the Power Crane and Shovel Association. Mr. Smythe is president of the Thew Shovel Co., Lorain, Ohio, manufacturers of "Lorain" power shovels and cranes. The Power Crane and Shovel Association is comprised of 16 manufacturers of power canes and shovels in the classification known as "commercial sizes."

Jay W. Pickett, district sales manager for E. C. Atkins & Co., in Atlanta, Ga., has been maintaining his office in residence, 223 Carter avenue, S.E., since the company's service establishment was discontinued. Orders may reach him at P.O. Box 3029 Eastwood Station, or phone Dearborn 5691.

Ray W. Turnbull, General Electric Company commercial vice president for the western area, headquartered in San Francisco, completed 40 years of service with the Company on February 13th.

William L. Dean, 67, president of Mathews Conveyor Company, Ellwood City, Pennsylvania, died February 6, 1952 in St. Petersburg, Florida, after an illness of one year.

Emmett Smith, Jr. has been appointed Service Representative for Osgood and General in California, Oregon, Washington, and in the northwest counties of Idaho and Montana. Mr. Smith will at present headquarter at the Osgood-General Parts Depot, at 420 Bayshore Avenue, San Francisco, California. **Orville Osborne,** whom Mr. Smith succeeds, has been promoted to Osgood-General Sales Representative in the northern counties of California, with headquarters in San Francisco.

Ed Matson is now covering Butte and Tehama counties for the Sierra Tractor & Equipment Co., Chico and Redding. Ford Bros., Red Bluff, recently took delivery of a "Cat" D8 from Sierra Tractor. The unit was complete with Hyster winch, and "Cat" 'dozer, and had a safety top.

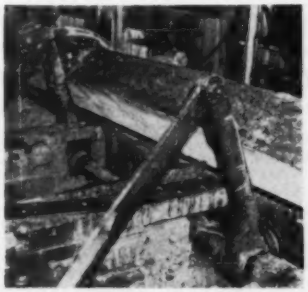
Plywood Plant Blower System

Two blower systems have just been installed for the Sylvan Wood Products Corp., Centralia, Wash., by the Anderson Blowpipe & Mfg. Co., Inc. of Seattle, Wash.

One system included the piping of one 49 in. eight drum Yates sander, one belt sander and one floor sweep. One No. 70 Anderson high efficiency exhauster, direct drive, was installed. An Anderson designed collector equipped with cyclonic cut-out cones, resistance eliminator baffles and discharge air-flow adjustment was also fabricated and installed.

Ten machines were piped in system number two. This system required a No. 60 Anderson exhauster. The rotors are welded throughout and are dynamically and statically balanced.

All other necessary piping and accessories were designed, fabricated and installed by the Anderson Blowpipe and Mfg. Co.



TIMBERLINE LOG TURNER

Increase Your Cut--Decrease Your Labor Costs With A

TIMBERLINE LOG TURNER

FEATURES

Friction Drive—requires no air or steam. **Simonsen Type**—turns the log away from the carriage. **Controlled Hook**—not an "automatic" hook; operator has complete control over action of hook. **Proven Performance**—not an experimental device; dozens in daily use. **Easy to Install**—no extensive changes necessary in log deck; can be installed by any competent millwright. **Simplified Controls**—a single stick controls both push arms and hook. In most cases can be driven off present power supply. Self-aligning bearings throughout.
Very Low Cost—complete, ready to install, F.O.B. Eugene, Oregon.

Write or Phone

TIMBERLINE FORGE WORKS

EUGENE, OREGON **188 Blair Boulevard**

SLAB BURNERS·CONVEYORS
HEAD PULLEYS·BEARINGS
CHAIN and FLIGHTS

3 - 6 DAYS ERECTION

Prices Invite Comparison

C & D WELDING SERVICE

Phone 2478 **REDDING, CALIF.** **P.O. Box 1787**

ILWACO BOOM POND BOAT

Increases Mill Production

HEAVY RUGGED STEEL CONSTRUCTION
LENGTH 16 FT., BEAM 8 FT., DRAFT 2½ FT.
110 H.P. CHRYSLER ENGINE
Total Weight 5 Tons

ILWACO BOAT WORKS

Ilwaco, Washington
Phone 423

CRAWFORD & DOHERTY FOUNDRY CO.

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BARKERS for Sawmills and Plywood Plants
Battery Separator Slicers, Grooves, Equalizer & Cutoff Saws
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Manganese Steel Rigging

BARDON HOOKS • SCREWY GUY LINE
HOOKS • ARCH AND DRAWBAR HOOKS
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ABRASIVE CO.

Grinding Wheels

'Mac' gets lots of attention now

How come? By breaking a bottleneck. How so? By changing over to saw gumming and knife grinding wheels of slightly different grain and grade. What wheels? Simonds Abrasive Company wheels . . . part of a complete line that may hold the answer to your needs for keener cutting saw teeth and knife edges. It includes F-face straight wheels, saucer and cup wheels, cylinders and segments . . . industrially proven products of Simonds Abrasive Company, a major grinding wheel producer for 60 years. Order from nearest Simonds branch or distributor.

SIMONDS ABRASIVE CO., TACONY AND FRALEY STREETS, PHILADELPHIA 37, PA.

Division of Simonds Saw and Steel Co. Branches in San Francisco, Los Angeles, Portland and Vancouver

New Officers

New officers for the Gerlinger Carrier of Dallas, Ore. and the Salem Steel & Supply and West Salem Machinery Co., both of Salem, have been announced by M. B. Gerlinger, newly elected president of all three companies. The vacancies occurred with the death, last November, of Carl F. Gerlinger, founder of the three companies.

Other officers for the Gerlinger Carrier Co., manufacturers of the world-famous Gerlinger Carrier and Lift Truck in use by the lumber and heavy industries throughout the world, are: V. O. Williams, executive vice president; A. C. Gerlinger, vice president; Carl A. Gerlinger, vice president and secretary; J. W. Kitzmiller, vice president and sales manager and J. C. Lundy, treasurer.

New officers for the Salem Steel & Supply of Salem, acting under the presidency of M. B. Gerlinger are A. C. Gerlinger, executive vice president and secretary; C. A. Gerlinger, vice president; J. W. Kitzmiller, vice president; V. O. Williams, vice president and J. C. Lundy, treasurer. The West Salem Machinery Co. lists C. A. Gerlinger as executive vice president and A. C. Gerlinger as secretary and treasurer, also under the presidency of M. B. Gerlinger.

Overcutting Cut-off Saw

Three Irvington #26-A air operated overcutting cut-off saws have been purchased by the Harold Casteel Lumber Company of Willits, California. The units are the floor mounted swing type, with a motor-on-arbor, widely used for selective and grade trimming by planing and remanufacturing plants. They were designed and built by Irvington Machine Works, of Portland, Oregon.

The Harbor Lumber Company of San Francisco, California, also recently installed an Irvington-Hill #19 overcutting cut-off saw. This unit is of the type widely used in box factories, cut-up plants, furniture and sash and door factories for volume trimming of stock.

Deetken Appointed District Sales Manager

Fred I. Deetken, for many years with the General Electric Co., has been appointed district sales manager, central and northern California and Nevada, for the Radio Communications Division, General Electric Co.

Deetken makes his headquarters in San Francisco. He reports the recent installation of a number of General Electric radio telephone systems in logging and lumbering operations, among them being: S. Beach Box & Lumber Co., Placerville; Masonite Corp., Ukiah; South Coast Lumber Co., Brookings, Ore.; and Stockton Box Co., Brushy Springs.

Rototrol and Magnetic Amplifier

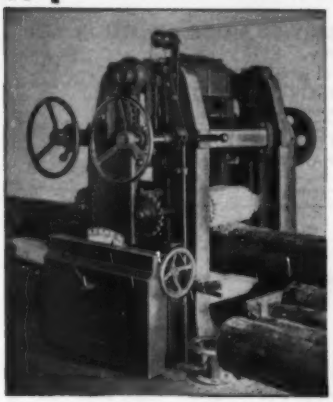
The January 1952 issue of Westinghouse Engineering Highlights, which mentions and illustrates some of the major accomplishments of Westinghouse during the past year, has a chapter on the company's Rototrol and magnetic amplifier, which give a sawyer in a sawmill fingertip control of carriage movement.

NOW

ESTERER

SASH GANG SAW

THE MOST ECONOMICAL METHOD OF SAWING LOGS



- HOLDS 24 SAWS; FEED RATE NOW UP TO 30′ PER MINUTE
- SAWS LOGS AND CANTS WITHOUT ADJUSTMENT
- PRICE IS AMAZINGLY LOW!

The ESTERER produces uniform boards with minimum kerf loss—actually more boards per log! Includes hydraulic saw tension device, hydraulic press roll lift with remote control, and continuous log feed device. *Write for specifications and attractive quotations! Also request quotes on Edger and Automatic Saw Sharpener.*

HENRY WIEGAND CORPORATION

Importers of Special Wood Working Machinery

501 FIFTH AVENUE • NEW YORK 17, N. Y.

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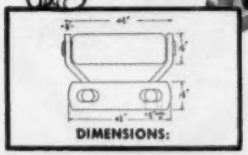
with HIGH LABOR COSTS!

PORTALLOY ROLLER TOP CHAINS

are your answer to high green chain labor cost.



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LONGER LIFE
EASILY WELDED TO
FITS STANDARD SPROCKETS

Write or call for catalog and price sheet.

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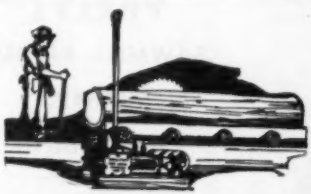
IN THE HEART OF THE LOGGING INDUSTRY



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STEAM FEED

helps the small and medium size sawmill to make a profit through

GREATER PRODUCTION

without increased expense.

Uses no more steam than belt or friction feeds. Less expensive to operate. Much faster. Full details in Catalog W. Yours for the asking.

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THE NEW POWER SAW SENSATION

McCulloch Model 7-55 (7 HP. . . 55 lbs.)
(Horsepower Rating on the Blade where it is needed.)

MAY BE SEEN AT OUR EUGENE, ORE. STORE . . . REPLACES HEAVIER MODELS WITH as fast cutting but with ½ the weight to carry.
CAN BE OPERATED BY 1 MAN—Weight makes it practical.
EQUALLY PRACTICAL FOR FALLING OR BUCKING
Phone, Write or Wire, or Better Yet Come In for a Demonstration

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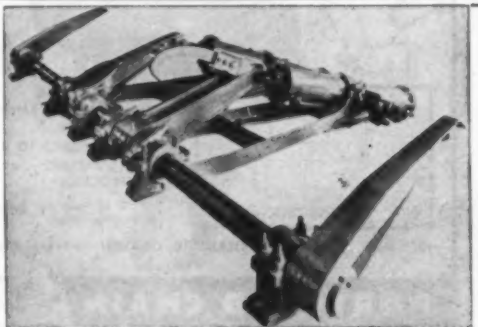
Factory Distributor . . . Lane, Linn, Lincoln & Benton Counties, Oregon
COMPLETE CHAIN SAW TOOLS AND ACCESSORIES
4190 Hwy 99 South EUGENE, ORE. Phone 4-9542

SEVERAL USED McCULLOCH CHAIN SAWS, GUARANTEED.



12" I.W. Johnson (Simonson) Log Turner. Also available in 14". See installations at Arcata Redwood, Arcata, Calif., and Winton Lumber Co., Bartel, Calif.

BETTER SAWMILL MACHINERY
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50 years in business

Turners, 8", 10", 12"; Carriages, complete; Rolls; Skids; Edgers, 6", 8", 10", 12"; Shot Gun Feeds, 8", 10", 12"; Niggers, 7"x 9", 8" x 10". Trimmers, resaws, gears, transmissions, feed engines, straight connected and geared. Power setworks, rack and pinion and screw type.

We design and build sawmills.

I. W. JOHNSON ENGINEERING CO.
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STEEL CONVEYORS
CHAIN . . . FLIGHTS
DRUMS . . . GEARS
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INSTALLED COMPLETE
READY TO OPERATE
Write for List of Users

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Skeen Electric Feed Works
Recently Delivered
To Western Sawmills

The Skeen Electric Works Electric Feed Drive

A FEW RECENT INSTALLATIONS

OVER FIFTY INSTALLATIONS NOW IN OPERATION

Cascade Locks, Ore., Lbr. Co., 125 HP carriage drive; Roseburg Lbr. Co., 60 HP planer feed drive; Oceanside Lbr. Co. 50 HP planer drive; Engle & Worth Lbr. Co., Winchester, Ore., 50 HP planer drive; Chapman Lbr. Co. (Mutual div.) 40 HP; Southern Ore. Planing Mill, 125 HP carriage drive; Cheney Lbr. Co., 10 HP on Wickes gang mill; Clay Brown Lbr. Co., 10 HP on Edger rolls; Van Vleet Lbr. Co., 7 various Skeen electric drives; Magnolia Lumber, Rogue River, 200 HP carriage drive; Wagner Bros., Longview, carriage drive.

Call or Write for Details

SKEEN ELECTRIC WORKS

IN BUSINESS SINCE 1906

835 N. W. Everett St., Portland 9, Oregon **Phone: BR. 3416**

"It seems that Bob and Hank take a personal interest. With very little exception, we've been well pleased with Wood service."

Lew Nuttbrock
Nuttbrock Lumber Co.
McMinnville, Ore.

Bob and Hank are service manager and shop foreman at Wood Tractor Co., Portland.

Southern Pine Prices

1x4 Std. VG Flg. PE...	$210.00	$195.00	$163.00	
1x4 Std. FG Flg. PE...	170.00	160.00	140.00	
5/8x4 Std. Ceiling	170.00	160.00	140.00	
1x6 Std. Drop Siding..	191.00	181.00	138.00	
	No. 1	No. 2	No. 3	
1x6 Std. Boards & S/L	143.00	84.00	74.00	
1x8 Std. Boards & S/L	143.00	89.00	79.00	
1x10 Std. Boards & S/L	148.00	89.00	79.00	
1x12 Std. Boards & S/L	173.00	96.00	77.00	

No. 1 Dimension S4S

	12'	14'	16'	18'	20'
2x 4 ...	95.00	96.00	98.00	108.00	108.00
2x 6 ...	91.00	92.00	93.00	102.00	104.00
2x 8 ...	96.00	94.00	94.00	102.00	104.00
2x10 ...	104.00	105.00	105.00	113.00	116.00
2x12 ...	110.00	110.00	110.00	121.00	126.00

No. 2 Dimensions S4S

2x 4 ...	88.00	89.00	91.00	101.00	101.00
2x 6 ...	84.00	85.00	86.00	95.00	97.00
2x 8 ...	87.00	85.00	85.00	93.00	95.00
2x10 ...	88.00	90.00	89.00	95.00	97.00
2x12 ...	86.00	86.00	86.00	95.00	103.00

No. 3 Dimension S4S

2x 4 ...	70.00	72.00	75.00	81.00	81.00
2x 6 ...	70.00	71.00	72.00	78.00	78.00
2x 8 ...	71.00	70.00	70.00	75.00	75.00
2x10 ...	67.00	70.00	67.00	72.00	74.00
2x12 ...	64.00	64.00	66.00	74.00	76.00

Log Prices

Logs are being quoted on the Willamette River at FOB ceiling prices except possibly on low grade dead peelers from the Tillamook Burn.

No. 1, Fir Peelers, generally $110.00. No. 2 Peelers, generally $100.00. No. 3 Fir Peelers, $80.00.

Douglas Fir Saw Mill Logs—No. 1, $45.00; No. 2, $52.00; No. 3, $42.50.

Hemlock—Selected Peelers, $60.00.

Hemlock Saw Mill—Peelers and No. 1, $32.50; Hemlock No. 2 and No. 3, now $40.00. Some Hemlock at $40.00 Camp Run.

White Fir—Same as Hemlock or $1.00 less. Noble Fir Peelers, $65.00; Sawmill No. 1, $60.00; No. 2, $42.00; No. 3, $40.00.

Cedar—Shingle, $40.00; lumber, $80.00-$100.00.

Spruce—Select, $85.00; No. 1, $60.00; No. 2, $43.00; No. 3, 42.50.

Douglas Fir Wood Logs—No. 1, $20.00.

5 POUND MALLDRILL—A Complete Workshop in Itself

MallDrills save man-hours by doing more for the operator in less time and with less effort. Model 381 shown is a portable workshop you carry from job to job. Mall manufactures ten models in electric, high cycle and pneumatic types to meet the requirements of every drilling job.

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MORE HOLES IN A HURRY
MALL TOOL COMPANY
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Chicago 19, Illinois

DOUGLAS FIR PRICES

#3 Common S2or4S 1x8" RL .....$	99.75
#1 Dimension 2x4	110.75
1x4 B and BVG Flooring	160-170
1x6 C&Btr. Drop Siding	145-155
1x6 No. 1 K-B	80- 85
1x8	
1x10	
1x12	82- 87

No. 1 Common Timbers and Plank

3x3 6-20 .....$	90-$95
3x3 22-24	92- 98
3x3 26-32	101-106
3x10 6-20	82- 87
3x10 22-24	85- 90
3x10 26-32	90- 95
4x4 6-20	85- 90
4x4 22-24	88- 93
4x4 26-32	96-101
6x6 6-20	82- 87
6x6 22-30	85- 90
6x6 32-40	100-105
8x8 8-20	82- 87
8x8 22-30	85- 90
8x8 32-40	100-105
6x10, 8x10, 8-20	82- 87
6x10, 8x10, 22-30	85- 90
6x10, 8x10, 32-40	100-105
10x10, 12x12, 8-20	82- 87
10x10, 12x12, 22-30	85- 90
10x10, 12x12, 32-40	100-105
Douglas Fir Cross Ties	65- 70

No. 1 Dimension (Green)

2x4 6-24 .....$	75- 80
2x6 6-24	74- 79
2x8 6-24	74- 74
2x12 6-24	73- 78

Sel. Merch. (Green)

1x4 6-20 .....$	85- 90
1x8 6-20	95-100
1x12 6-20	100-105

British Columbia Log Prices

By C. D. Schultz & Co., Ltd., Vancouver, B.C.

Fir—Stocks remain steady. Standard logs still selling at $52.50 to $62.50 for No. 3's, $62.50 to $72.50 for No. 2's and $72.50 to $82.50 for No. 1's. Peelers continue to sell at $77.50 to $87.50 for No. 3's, $82.50 to $92.50 for No. 2's and $92.50 to $102.50 for No. 1's.

Cedar—Stocks decreasingly slowly. No change in cedar log price range. Shingle logs still selling at $35.00 to $45.00 for No. 3's, $45.00 to $55.00 for No. 2's and $60.00 to $70.00 for No. 1's. Lumber cedar continues to sell at $60.00 to $70.00 for No. 2's and $70.00 to $80.00 for No. 1's. Pee Wee and tie cedar still selling at $35.00 to $42.50.

Hemlock and Balsam—Stocks remain constant. Price range is steady at $50.00 to $60.00 for No. 3's, $60.00 to $70.00 for No. 2's and $70.00 to $80.00 for No. 1's.

RED CEDAR SHINGLES

Royals

1—24"-4/2	12.00-13.00
2—24"-4/2	9.00- 9.50
3—24"	6.00- 6.50

Perfections

1—18"-5/2¼	9.50
2—18"-5/2¼	5.25- 6.00
3—18"-5/2¼	4.25-

XXXXX

16"-5/2 #1	9.00- 9.75
16"-5/2 #2	5.50-
16"-5/2 #3	4.25-

Douglas Fir Plywood

1-4 inch basis .....$	85.00-$87.00

Western Pine Prices

Following Delivered Prices, based on Past Sales, were reported to the WESTERN PINE ASSOCIATION by members during the period February 4, 1952 to February 11, 1952 inclusive. Both direct and wholesale sales are included and are based on specified items only. Two districts are given, one being the State of Illinois, outside of the Chicago Metropolitan district, and the other the State of Pennsylvania. Quotations follows:

PONDEROSA PINE

	Illinois, Pa.	Illinois, Pa.		
Selects S2 or 4S	1x8"		5/4 RW	
C Select RL.....	281.25		273.75	
D Select RL.....	215.50	218.25	235.00	233.63
Shop S2S	No. 1		No. 2	
5/4	154.65	145.15	126.80	120.08
6/4	149.75	150.50	130.75	123.50
Commons S2 or 4S	No. 2		No. 3	
1x8" RL.....		133.65	108.50	102.82
1x12" RL.....	131.50	132.97	100.31	100.17
4/4 &4 Common S2 or 4S RW&L			79.25	97.25

IDAHO WHITE PINE

Selects S2 or 4S	1x8"		6/4 RW	
Choice (C) RL....	271.25		283.75	
Quality (D) RL..	232.25	234.67	252.75	254.75
Commons S2 or 4S	Colonial (#1)		Sterling (#2)	
1x8" RL	163.25	166.00	150.25	153.81
1x12" RL.....	190.75	193.53	155.75	159.55

SUGAR PINE

Shops S2S	No. 1	No. 2
8/4	179.50	132.50

LARCH-DOUGLAS FIR

# 3 Common S2 or 4S 1x8" RL....	65.25	
#1 Dimension 2x4 RL.....	110.50	111.25
#1 Dimension 2x6 RL.....	109.42	110.00

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WOODBURY & COMPANY
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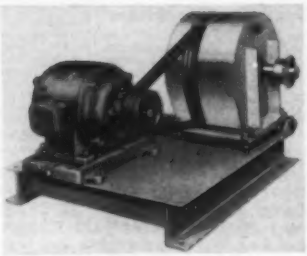
EUGENE, ORE. 208 8th Ave. W. Phone 5-4374
MEDFORD, ORE. Woodbury Medford Phone 3-3661
COOS BAY, ORE. Woodbury & Lillebo, Inc. Phone 1-5901

New Clipper Drive

Merritt-Solem Corporation, Lockport, New York announces the development of a new clipper drive. It is a compact unit and transmits power by means of an electric clutch and brake. The interesting feature lies in the total absence of brake bands as heavy duty armatures and magnets are engaged in the proper sequence to operate the clipper knife. Being electric, it is possible to have any type control desired including full automatic measuring devices.

The drive can be applied to any make or model clipper where the knife action is generated thru a crank shaft. The sprocket ratio between the drive and the clipper controls the number of strokes per minute of the knife bar.



New Merritt-Solem Clipper Drive.

It is called the CCB-50 Drive Unit and in addition to clipper operation has numerous other applications.

Edgers and Trimmers

Bayliss Lumber Co., Philomath recently took delivery of an 8" Albany trimmer, 24' long. Also Ed Albertsen of Philomath recently took delivery of an Albany selector automatic trimmer and the Forest Products Co. of Brownsville recently took delivery of an 8x50" Albany Eastern type edger.

New Company

The Oliver Tractor Co., Inc., has been incorporated in Louisiana, with headquarters at 3101 Louisville avenue, Monroe, La. The new company will deal in automotive equipment. Capitalization was set at $100,000.

A charter has been taken out for **Forbing Sawmill Co., Inc.**, Ellerbe Road, Shreveport, La.

PAGE

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PAGE & PAGE CO.
0605 S.W. CURRY ST. • PORTLAND 1, ORE.

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PLYWOOD & DOOR, INC.

LIN-PLY

Manufacturers of
DOUGLAS FIR PLYWOOD
Interior Grades

Members of: Douglas Fir Plywood Assn.
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Rack & Pinion Type Set Works

Prescott-Seattle
ELECTRIC SET WORKS

For Fast, Accurate Setting
Will set to 1/32" increments

BUILT-IN DRIVE MOTOR

CLUTCH AND GEARS OPERATE IN OIL TIGHT CASE

Built for either rack and pinion or screw block type carriages

Prescott Iron Works, Inc.
1 W. Lander St. Phone SEneca 0250 Seattle, Wash.

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- **INDUSTRIAL PLANT DESIGNING**
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- **ESTIMATES**

Designing services will always lower the final cost, and many times represents the difference between success and failure of the project.

M. A. WARD CONSTRUCTION CO., INC.
"Specialists in GOOD lumber production."
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RAILS

Relaying Rails — Angle Bars — Track Accessories — Cars of All Types — Used Car Parts — Construction Equipment

We Buy Obsolete Cars and Locomotives and Abandoned Trackage for Dismantling Purpose

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Cut costs, increase speed of your cleat operations!

California Type F Cleat Machine —standard of the Western pine industry—is designed for precision ripping of box cleats and other multiple-rip jobs involving short length stock. Power-driven feed rolls, mounted close together, insure positive travel through saws. Variable feed speed unit insures efficient stock handling. Separate motors drive saw arbor and feed rolls. *Write for details.*

CALIFORNIA SAW WORKS

721 Brannan Street — San Francisco 3, Calif.

SERVING THE LUMBER INDUSTRY SINCE 1886

Manufacturers of **California** Circular Saws, **California** Cut-Off Machines. *Distributors from stock of* Norton Abrasives, Big Chief Knives, Jones & Orth Cutter Heads.

A NEW DIMENSION IN FORESTRY

More and more forest industries, timber holders, logging operators and financial institutions are using our services in the following fields:

- GENERAL CONSULTATIONS
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- UTILIZATION
- PROTECTION
- SILVICULTURE
- ENGINEERING
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- PHOTOGRAMMETRY
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- MANAGEMENT
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- MARKET SURVEYS AND TRADE EXTENSION
- PURCHASING, TRAFFIC AND INSPECTION

We invite you to consult with our Foresters, Engineers and Managers.

C.D. SCHULTZ & COMPANY LIMITED

FORESTERS & ENGINEERS

MANAGEMENT CONSULTANTS

VANCOUVER • SEATTLE

(Continued from Page 194)

plywood producers would contemplate a new approach to processing. A concentrated effort should be made to lower costs without lowering the usefulness of the product. Direct sales effort needs to be re-examined and improved so that follow-through on the excellent association advertising will be solid and not hit-or-miss. Salesmen at the mill level need to be trained to stimulate business, work with processors, builders, architects, and other specifiers instead of merely handling orders received from a relatively small number of distributors. Merchandising in its broadest implications should become a reality rather than a word synonymous with selling so that product planning and development will be a vital reality in the industry.

Many will dismiss this as academic eye-wash and as too vague and general to be of immediate value. It is long-range in concept, but production control, industrial engineering, material recovery, cost analysis, and continued research on processing techniques will pay out even though they may involve additional staff. A process industry which has seen as little fundamental technological improvement in 25 years as has occurred in plywood is sure to offer rewards for consistent research and development. The electronic moisture-meter is an illustration. The pressure for improvement in processing has not been on since the 1930's and the incentives until now have not been sufficiently strong to attract the talent necessary to do the job. Now the incentives are here if the statement of the present dilemma facing the plywood industry is an accurate one.

Engineered Building

An interesting phase of the building construction of the new Gardiner Lumber Co.'s plywood plant, at Gardiner, Oregon, are the superstructures designed, engineered, and erected by Associated Wood Products of the Northwest, Portland Division. One half of the supporting columns, were eliminated in this, one of the Northwest's largest wooden buildings. This was accomplished, through Associated's design of heavy carrying trusses.

Also, Associated designed, constructed the overhead supports, trusses and beams, for the overhead fuel conveyor system, as well as for the blower system, for carrying lighter refuse to the power house. The heavier waste, is carried on the conveyors.

SIMPLIFY EQUIPMENT CONTROL WITH Ledeen CYLINDERS

Ledeen CYLINDERS

For straight line power movement. Air, oil or water operation. Medium Duty, Heavy Duty, and Super Duty models. Write for Bulletin 500.

Ledeen VALVES

For actuating air or hydraulic cylinders. 14 different models for 5 different cycles, in 6 sizes. Hand, foot and power operated. Write for Bulletin 510.

Ledeen VALVE ACTUATORS

For actuating any make, size and type of valve, against any line pressure, on any fluid medium, and with any pressure available. For on-and-off or positioning service. Positive in action, economical in cost. Write for Bulletin 512.

Ledeen Mfg. Co.

1604 So. San Pedro

Los Angeles 15, Cal.

THE MOST VERSATILE FLOOR MOUNTED OVER-CUTTING CUT-OFF SAW ON THE MARKET TODAY!

The New IRVINGTON 26-A AIR-OPERATED CUT-OFF SAW

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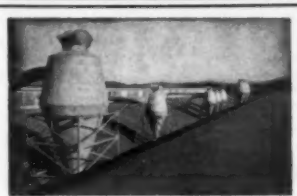

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2. Baldwin-Rex Double Pitch Roller Chains are pictured and described in detail in a new bulletin released by Chain Belt Co. of Milwaukee. The bulletin describes how these chains can often effect both cost and weight reductions in drives and conveyors. Charts, photos, diagrams, and tables show in detail all Baldwin-Rex Double Pitch Roller Chains—both drive and conveyor types—and the standard attachments available. There is also a description of double pitch chain sprockets.

3. A very complete, new 20-page illustrated book on Model "UP" Vibrating Screens for the fast, accurate dry-screening of light and fine materials, and Model "NRM" Liquid Vibrating Screens for the low-cost, high speed separation of solids from liquids, has been published by Link-Belt Company. Descriptive material includes specific information on how to select the right screen and screen cloth for maximum operating efficiency; dimension tables, weights, horsepower requirements; and other data of value to the engineer and plant operator.

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4. Calling attention to several industrially-proved installations of Ledeen Cylinders in over a dozen different fields is Bulletin 152, just released by Ledeen Manufacturing Co., Los Angeles, manufacturers of Ledeen Cylinders, Valves and Valve Actuators. Following the bulletin's theme "Use a Cylinder and Save a Man," application of Ledeen Cylinders is illustrated and described in such widely varied fields including lumber mills.

5. For some months, the Union Wire Rope Corporation's technical and field staff have been developing complete data which has now been compiled into a comprehensive, yet easy to use, sling handbook. It illustrates 11 sling types and covers their dimensions, weights and safe working loads. Some 30 illustrations of sling uses accompany the factual data as a help in selection of proper types. Also illustrated and detailed are 11 types of sling fittings, valuable information on the care of slings, methods of factory fitting and packaging and information on braided wire fabric for those who maintain rigging lofts. Illustrated, step-by-step instructions for splicing the new braided wire sling fabric is included. Combined with the sling handbook is a comprehensive riggers manual. It illustrates and gives step-by-step instruction on wire rope splicing.

Data on efficiencies of wire rope attachments and illustrated direction for attaching sockets or ferrules are also included in the riggers manual. Back cover of this manual is devoted to illustrations showing standard hand signals to be used in operating overhead traveling cranes, locomotive cranes and whistle signals for cranes and derricks.

6. A new six-page 8½ x 11-inch folder recently released by Greenlee Tool Co. provides a complete condensed reference file on woodworking tools for mortising, boring, routing. Reproduced in this compact presentation of the Greenlee line are large photographs of the various tools in exact proportion and precise detail. Boring tools—including machine bits—are presented in the first section of the folder. Mortising and routing tools are also covered in detail in separate sections.

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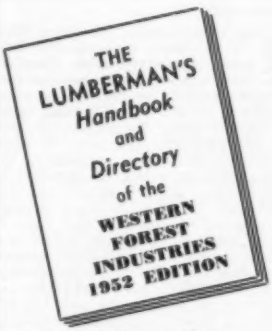

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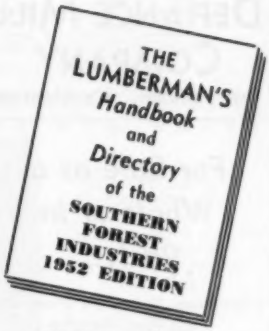

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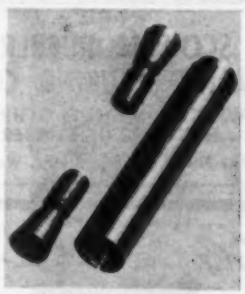

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1 Ingersoll-Rand Imperial Type 10, 17x10x14 — Horizontal duplex 2 stage 677 CFPM.
1 Rix Vertical Twin — 50 cft 10 H.P. Motor V belt drive with starter and code receiver — 24"x66".

FILING AND GRINDING ROOM EQUIPMENT

BAND GRINDERS

1 Hanchett No. 150L with Drophead to 20", Rebuilt.
1 Covel No. 130L - Rebuilt to 12".
1 Hanchett No. 133R - Rebuilt Motor Driven to 7".

KNIFE GRINDERS

New Rogers 32" Motorized Fully Automatic.
New Dependable - 30" Motorized - Automatic.
New Dependable - 36" Motorized, Auto.
New Dependable Cutterhead Grinders.

ROUND SAW GRINDERS

1 Hanchett No. 136 — Rebuilt Hand Gummer for Trim Saws to 36".

NEW GISSE HAND GUMMERS

12" to 72".

ROLLER STRETCHER

New Gisse Bench Model to 10".
New Gisse Floor Model to 16".

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TOWER MFG. CO. Edgers and Trimmers.
PEORIA MALLEABLE CO. Malleable Chain.
ATLAS CHAIN CO. Roller Chain.
CHAMPION BLOWER & FORGE CO. Blacksmith and shop machinery.
MILLER KNUTH CO. Power Hack Saws.
S. C. ROGERS MFG. CO. Knife Grinders.

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Good Machinery Buys

DONKEYS

1—BU 140 Skagit Yarder with 140 HP Waukesha engine, (3 drums) GK
1—BU 140 Skagit Loader with 135 HP Chrysler Industrial engine
1—2-drum Mundy American friction hoist

CRANES & CARRIERS

1—15 ton Browning hoist R.R. crane 60' boom, oil burner
1—25 ton P & H 36' span Bridge crane
2—Model 11 Ross Carriers, pneumatic tires
2—Model CP-7 Willamette carriers, 1935

USED MOTORS

1—100 HP 1800 RPM U.S. B.B.
1—100 HP 1200 RPM Allis
1—30 HP 1200 G.E. slip ring with controls
1—20 HP 1200 G. E. slip ring
1—15 HP 1200 G.E. slip ring
2—15 HP 1200 G.E. slip ring with grids
1—50 HP 900 U.S. ball bearing
2—30 HP 900 U.S. ball bearing
1—75 HP 900 RPM, 440 V. Westinghouse B.B

REDUCERS (Used)

1—Worm gear 7½ HP capacity 750:1 ratio
1—Worm gear 5 HP capacity 1000:1 ratio
1—2 HP @ 68 RPM U S
1—2 HP @ 280 RPM U S
1—2 HP @ 127 RPM G E Pacific

WELDERS

1—300 amp Lincoln driven by a 6 cylinder GMC engine
1—400 amp G.E. welder, Electric

GRINDERS

1—99A5-36 Dependable Knife grinder, new
1—#21 Gawley RH Band saw grinder
1—12 x 14 x 5 leveling block
1—42" segment grinder for shingle saws

SAWMILL EQUIPMENT

60" 4-block rack and pinion carriage Trout setworks
54" 3-block screw carriage AC set works
1—F & S head block 72"
1—5-saw Lamb gang bolter
1—#60 Diamond hog, babbitt bearing, steel rafter
1—12 x 7 x 12 F & M feed pump, outside center packed

BOAT SPIKES

½ x 7 galv. ½ x 14 galv.
½ x 8 galv. ¾ x 8 black
½ x 9 galv. ¾ x 10 galv.

ROLL CASES

6—10 x 20 on 12" channel with roller chain
7—10 x 20 on 12" channel with roller chain
7—12 x 24 on 15" channel with miter gears

MISCELLANEOUS

7—Sumner standard shingle machines all electric, complete with saws and controls
1—135 HP a 1000 RPM LeRoi gas engine, stationary
2—Twin City gas engines out of N.W. cranes
1—10 x 10 Link reversing twin "Ideal" steam engine
25,000'—1" black pipe, (very good)
1—Jarecki 2½ to 6" pipe machine
1—Williams 4" pipe machine
1—36" West side band saw steel wheels
1—5 ton chain block, Hercules
1—Cone gear and pinion
1—PM power saw 30" blade
1—Car hoist with 12" x 6' hydraulic cylinder
2—72" x 18' HRT boilers
1—S.E. Fire Box 72" Washington code boiler
1—Stetson Ross Handy saw, 440 V. 5 HP motor
3—333 KVA Westinghouse transformers 2200 to 440 V
1—#10 Jointer 2 knife roundhead 24"
1—235 HP Hesselman Diesel air equipped and Skagit Transmission
1—Circular Resaw 14 x 16 opening with 2—32" inserted tooth saws

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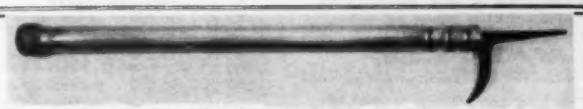

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GMC 270 COMPL., with hydro. trans.
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GMC 248 COMP., clutch and trans.
450 RED DIA. INT. COMP. Less accessories.

MARINE BARGAINS

GMC 671 diesels, comp. 3 to 1 red. gear
CHRYS. Crown, comp. 2½ to 1 red. gear

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2000 lb. Hyster fork lift trucks
ROSS straddle lbr. carriers, 54x68; 90% new.
GERLINGER straddle lbr. carriers, 54x68; 90% new.
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15-KV. gen. plant, 127-220-V., 4-wire.
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GMC 671 diesel power units.

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USED EQUIPMENT

ENGINES

1—Waukesha 4-cyl. 60 HP gas motor with clutch and pulley less radiator with circulating pump
1—Fairbanks Morse 20 HP Semi-diesel type engine
1—used 8x8 twin Vertical Reverse Throttle
1—OA&S 8x10 side crank self-contained RH 36x8 pulley
1—H S and G 11x16 LH sidecrank
1—Atlas 11x14 center crank 3" steam 66x15 pulley
1—Williamette 11x16 twin engine, pulley 78x26 4" steam
1—Lacoming 15"x13 center crank ant. 4½ steam 5" exhaust 52x13½ pulley
1—H S & G 14x18 LH sidecrank, pulley 96x30 4" steam rebuilt
1—Skinner 12"x18" sidecrank ant. 6" steam. 7" ex. 78x28 pulley
1—Duke Rotary Steam 5 HP 1" S 1½ ex.
1—Chandler & Taylor 13"x16" twin engine

NEW WORTHINGTON COMPRESSORS

1—new Worthington M25 142 cu. ft. compressor, 3 stage air cooled 25 HP motor, V-belt drive
1—new Worthington M40 104 cu. ft. 40 HP V-belt drive
Complete stock of smaller new Worthington Compressors
1—used Ingersoll-Rand 148 cu. ft. hor. belt drive air compressor
1—used Ingersoll-Rand 513 ft. 9x12x15x12 cross compound 75 HP motor
1—used Ingersoll-Rand Portable 160 ft. 4 cyl. gas engine, drive on truck
1—Chicago 300 cu. ft. 12"x14" with 50 HP motor
1—677 cu. ft. Ingersoll-Rand 2-stage
1—480 cu. ft. Ingersoll-Rand 2-stage

PUMPS

Complete stock of new Worthington Centrifugal Pumps
1—new Worthington 2x2x3 duplex
1—new Worthington 3½x2½x4 duplex
1—new Worthington 4½x2½x4 duplex
1—new Worthington 5½x3½x5 duplex
1—new Worthington 6x4x6 duplex
1—used Gardner 6x4x6 duplex outside center packed
1—used Blake 4½x2x4 outside and packed (pot valve pattern)
1—used 175 lbs. steam, 350 lbs. water pressure
1—used Smith Valle 8x8x8 duplex 5" suction, 2" discharge
1—used Jeanesville 8"x8"x8" outside and packed duplex

HOISTS

1—Hyde 6x8 cyl. reverse throttle, rebuilt
2—American 6"x12" dbl. cyl. cat. drum rev. throttle sgl. geared pin. 7" gear 36x4" (herringbone) 16x20 drum—rebuilt
1—Murray I. Works 6x10 dbl. cyl. sgl. drum reverse throttle sgl. geared 7x4 pinion, 23x4 gear drum—rebuilt
1—new Electric Hoist 4bl. drum. 22" dia. by 32" long, grooved for ⅝ or ¾ line speed 40' per min. line pull 10,000 lbs., 2" HP 1750 RPM direct current motor, 230 volt triple compound all enclosed
1—5-t. drum hoist on 4 wheel truck, DC motor 12 HP 125 volt, 1750 rpm, compound wound street car control, worm gear drive, 41½" dia., worm drum 10"x18" 2 7/16 shaft
1—used Electric Hoist, 5 HP 220-440 V dbl. compound 4000 lbs. 20' per min.
1—5-ton sgl. friction Drum Hoist, 10 HP 1200 GE BB motor, self contd.
1—new No. 40 American Hoist and Derrick, sgl. drum hoist, motor drive 10 HP, cap. 2000 lbs. at 100 ft.

HOGS AND CHIPPERS

1—42" Chipper babbitt bearing 4-knife 9x11 spout
1—Diamond 2140 hog, babbitt brg., 17½x19" opening, 40" rotor
1—new Diamond 225 roller brg. hog
1—new Diamond 235 roller brg. hog
1—new Diamond 245 roller brg. hog
1—used 15CF M&M Chipper, 45"x29" opening, cap. 12,000# per hr.
1—Mitts and Merrill 210 Paper Shredder, cap. 2000# 1½", 4000# ¼"
1—Mitts and Merrill 23C Edging Mag. cap. 4000# 10x12 spout
1—used 245 Diamond babbitt bearing
1—used 235 Diamond roller brg. hog
1—Williams 24XA 20x36 opening, cap. 15x12 tons per hr. 4⅞ shaft 30x15½ solid balance wheel
1—72" Chipper, belt drive, 3 knife

DRAG SAWS

1—Multnomah 7'x44" direct steam
1—new 24" Electric Drag Saw
1—Stationary Chain dock saw, 6 ft. bar

CARRIAGES

1—7 ft. Clark RH Band Mill, roller brgs., new top wheel, motor strain and guide lift, 1 ft. raising block
1—9' Band Mill, roller brg. RH
1—used screw block carriage, 3 48" blocks, trucks and track Hand set works
1—set 3, 33" R&P Carley headblocks, sgl. acting set works
1—used Carriage, 3 54" screw blocks, power set works, 5 HP motor, 8 axle trucks, 10" wheels, 60' V and flat track
1—3-block 60" Carriage, dbl. I-Beam blocks, Power Set Works, taper knees, 6 trucks, 12" steel V and flat wheels, Timken bearings
1—used 3-block Carriage, 40" steel carriage frame 20' chain head blocks, Hydraulic dogs, Pump 3 HP motor, Andrew Aut. Set works, 5 HP motor, 6 trucks, 10" 2 9/16 axles, roller brg. 60 ft. 30# V and flat track
1—Allis 3-block 72" carriage, #4 Trout Set, steel frame, taper knees
1—used Trout #4 Power Set Works for screw blocks
1—Sumner Power Set Works for screw blocks
1—10 and 12x5' fall oscillating nigger
1—used 10x42½ ft. fall oscillating steam nigger
1—Low down type steam nigger, 10x60 cyl., 6x24 helper cylinder
1—Simonds 8" shaft, 1 Hook arm, 1 Push arm, 3 helper arms, 12x30" cylinder
1—Log Stop and Loader, 5 15/16 x 20 ft. shaft, 3 steel arms, 18x24" cyl.
1—Log Stop and Loader, 6 7/16 x 30 ft. 4 steel arms, 12x30 cyl.
400 ft. 1½x6x11½ conveyor chain
200 ft. 1½x8x11½ conveyor chain
New ⅞, 1⅛ and 1" long link conveyor chain
New 60, 74, 78, 82 and 124 chain
103 ft. 1½"x8 log haul chain
18 steel chairs 6"x9" for 1" chain
1—new Whetland 2-saw 1-man trimmer 6 to 24 ft.
1—new Wheland 238 portable mill, 36" head blocks

EDGERS

1—used Tower 4"x36" table edger, 30 HP motor
1—used Whetland 4"x40" 4-saw table edger 10" LT saws
1—new Whetland 3"x34" 3-saw roller bearing
1—used P. I. Works 6"x48" 4-saw stub lever
1—new 6"x48" 4-saw stub edger, ballbearings, 22" saws
1—used 6-saw lath or cleat machine

STEAM FEEDS

1—4½x5 twin feed
1—8x8 twin feed
1—new 5x6 SpeeD twin feed
1—6x7 twin feed
1—8x10 twin feed
1—7'x36" shotgun feed
1—12"x36" shotgun feed
1—10x18 P&H (Beck) twin feed direct, 48"x14" drum
1—12x16 P&H (Beck) twin feed direct, 36"x14" drum

RESAWS

1—Berlin #283 44" Vertical Resaw 5" blade, cap. 24" Vee, 10½" thick Tilting rolls, 40 HP motor
1—Fay & Egan 30" circular resaw 88 arbor tilting rolls
1—American 24" circular motor driven resaw
1—new Trojan Circular Resaw, cap. 14"x17" opening, air jam rolls tilt, for bevel siding
1—Cordesman 42" band Resaw, 6" opening, babbitt bearing, 25 HP motor, V-belt drive
1—Mershon 54" LH Vertical Band Resaw, tilting rolls, 8" opening, babbitt brgs. 40 HP motor
1—American 24 40" band Scroll and Resaw, 5" blade, cap. 29" V opening 60" ballbearing
1—Mershon 84" vertical resaw, babbitt bearing LH
1—Yates V30 64" vertical resaw, 8" blades, RH machine LH set works

PLANERS, SURFACERS, MOULDERS & DBL PROFILERS

1—Yates 91 6x15 8-knife Matcher Dbl. Profilers
1—American 77A 6x15 6-knife Dbl. Profiler Matcher
1—2754 Berlin 6-Knife Matcher 6"x15"
1—2x4 motor drive moulder, 4-knife round heads
1—American 7" 4-side sq. head moulder
1—W&P 8" 4-side moulder
1—American 24½ 38"x7 2-knife Surfacer, sec. infeed rolls
1—Berlin 6"x24" 2-knife surfacer, sec. infeed rolls
1—Cordesman 8"x26" 2-knife surfacer, sec. infeed rolls
1—American 2126 8x28 4-knife Matcher, with extras
1—Berlin 244 6x24 4-knife matcher with extras
1—Yates 2156 6x30 BB direct motor drive
1—15 HP motor sec. infeed and chipbreaker
1—Buss 6"x36" Dbl. surfacer, 6-knife Heads, Sec. Rolls and CB
1—Woods 2107 6"x12 Sq. Head Inside Moulder

RIP SAWS

1—#2 American Self-feed Circular Rip Saw, 15 HP V Belt drive
1—Madison 2287 Straight Line Rip Saw, 15 HP 3600 RPM motor
1—Gramlee self-feed rip saw, table 42"x89"
1—American #2 Band Rip, 42" wheels, 3½" blade, cap. 12" opening
1—American 215 babbitt bearing motor drive 15 HP V-belt drive straight line Rip Saw

KNIFE GRINDERS & BAND SAW GRINDERS

1—Cutlerwood 38" knife grinder, 28"x1½ wheel
1—used Bridgeport 60" knife grinder, 25x1½ wheel
1—new Doonedahle 290A 36" motor drive semi-automatic
1—new Doonedahle 290A 36" motor drive, full automatic
1—new 2101A sidehead grinder, motor driven
1—new 2102A sidehead and profile grinder, motor drive
1—Covel #1200LH 10" band saw grinder
1—new 10" RH motor drive band saw grinder
1—Hanchett 12" HR band saw grinder
1—Covel #1001 10" band saw grinder
1—Covel #150 RH 16" BB arbor
1—Covel #118 10" RH band saw grinder
1—new Cottis hand gummer, cap. to 48" motor drive
1—Automatic Circ. Saw Grinder cap. 44"
1—Covel #141B Blackmer hand air. saw grinder 12" to 72"
1—Covel #55 Aut. Circ. Saws, 12" to 72" and band saws to 10"
1—Covel #140 LH 14" band saw grinder
1—Covel new #46 small Hand Gummer 40"
1—new leveling block 4½"x8"x60" 1000# hard face
1—Covel 10" LH #90 band saw grinder
1—Lumber Carrier
1—Ross #12 42" Lumber Carrier with carrier blocks

Agents For WHELAND COMPANY, Chattanooga, Tenn.
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PLANERS

1—8 knife Newman #510 (new)
1—8 knife #9A Stetson-Ross
1—8 knife #91 Berlin, dbl. profiles
1—new 24' Auto-select, gang trimmer with steel I beam "A" frames, table and ect.

SKAGIT 3 DRUM YARDER

This set of drums has 150 HP Cummins diesel that has been completely rebuilt. 1st. class.
1—125 HP—900 RPM Indust. Waukesha gas.
1—mod. #671 GM diesel

FEED ENGINES

13 x 16 Sumner geared twin
7 x 9 Marion twin, direct
6 x 8 Brownlee twin, direct
Shotgun, 12" x 42" Western (new)
25 HP Skeen Elect. carriage feed

GRINDING EQUIPMENT

1—used 150R Covel bandsaw grinder
1—used Covel gang saw grinder
1—used Covel #109 stretcher

EDGERS

1—4" x 90" Portland tabel type

CARRIAGE

(one man) three 66" Port. Iron screw blocks log and boss air dogs, trout setwks, anti-fric. wheels, handles 24 ft. logs, length 21 ft. width 11½ ft., 78" bet. wheels.

MOTORS (partial list) SLIP-RING

3—150 HP—1200 RPM synch. (2200 V)
2—200 HP—1200 RPM synch. (2200 V)

SQUIRREL CAGE

1—300 HP— 720 RPM
1—250 HP—1800 RPM
1—250 HP— 720 RPM
1—200 HP— 720 RPM
1—200 HP— 600 RPM
1—100 HP—1200 RPM
2— 75 HP—1200 RPM

MISCELLANEOUS

1—used No. 65 Diamond Hog
1—97 CFM Gardner compressor
1—Fairbanks 12" x 12" compressor
1—Klamath 8" x 10" x 60" nigger
1—Pond dump winch

Air cylinders
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LUMBER HANDLING EQUIPMENT

LUMBER CARRIERS

1—Series 90-6544 Ross, 42 x 53 package, 42 inch bolster
1—Series 90-7056 Ross, 52 x 58 package, 54 inch bolster
1—Series 90-8556 Ross, 52 x 73 package, 54 inch bolster
1—Series 11-6044 Ross, 42 x 48 package, 42 inch bolster
1—Series 12-6044 Ross, 42 x 48 package, 42 inch bolster
1—Series 80-6056 Ross, 52 x 48 package, 54 inch bolster
1—Series 70-6651 Ross, 48 x 54 package, 48 inch bolster
1—Series 70-6657 Ross, 52 x 54 package, 54 inch bolster
1—Hyster M2-4560, 42 x 48 package, 42 inch bolster
1—Hyster M2-5166, 48 x 54 package, 48 inch bolster
1—Hyster M3-5670, 52 x 54 package, 54 inch bolster
1—Hyster "Utility"—DP4, 42 x 42 package, 42 inch bolster
1—Hyster "Utility"—CP-4565, 42 x 53 package, 42 inch bolster
1—Hyster "Utility"—CP-4560, 42 x 48 package, 42 inch bolster

LIFT TRUCKS

1—New Ross Model 15 SH, 15,000 lbs. capacity, 9:00 tires, hydraulic hoist, power steering
1—Ross Model 15 HT, 15,000 lbs. capacity, 9:00 tires, hydraulic hoist
1—Ross Model 15 LL, 15,000 lbs. capacity 17' 6" Lift, 9:00 tires, hydraulic hoist, power steering, side shift carriage
1—Ross Model 18 HT, 10,000 lb. capacity, 10' Lift, 7:50 tires, power steering
1—Ross Model 12 HTH, 18,000 lb. capacity, 17' 6" Lift, 10:00 tires, power steering
1—Ross Model 14 HT, 16,000 lb. capacity, 17' 6" Lift, 9:00 tires
1—Hyster RT 150, 15,000 lb. capacity 17' 6" Lift, 8:25 tires, power steering, creeper gear
1—Hyster KT, 12,000 lb. capacity, 17' 6" Lift, 7:50 tires, chain hoist

ALL EQUIPMENT SUBJECT TO PRIOR SALE
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KOEHRING
CRAWLER CRANES
AND SHOVELS
IMMEDIATE DELIVERY
2 Northwest model 80-D.
Bucyrus-Erie 13-B shovels, hoes or draglines.
Lima model 34 shovel or dragline.
General cruiser crane, 4½-yard.
Lorain Truck crane.
Link-Belt truck crane.
Osgood crawler crane.
These machines are equipped and ready for immediate delivery.
Also available in our yards for your inspection all sizes of dragline buckets and clamshells.

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Just received over 250, all makes, sizes.

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FOR SALE

New Atkins TZ-46 Electric Chain Saw consisting Louis-Allis Generator, 10 H.P. Atkins Power Head, 100 foot feeder cable, 46 inch bar and chain with helpers handle. Priced less than our cost.

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FOR SALE

550 KVA Diesel Electric Power Plant complete with switch gear, etc.
8'-0" Wheland L. H. Band Mill
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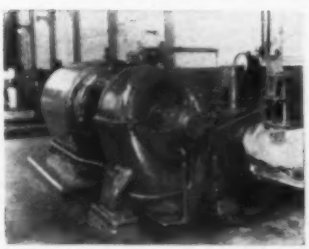

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